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ABSTRACT

This resource guide lists 47 computer software and 29 instructional video programs recommended for use in grades K through 12 to help teachers achieve the learning objectives set forth by their school districts and the State of California. Programs are organized in six curriculum areas: foreign language, history-social science, language arts, mathematics, science, and visual and performing arts. Most entries for software list the source, rating, grade level, focus, description/major objectives, program type (word processing, simulation, creative tool, etc.), support materials, equipment, price, copyright date, teacher preparation time/ease of use, implementation ideas, and classroom setting. Most instructional video entries list the producer, rating, grade level, length, copyright date, focus, description/major objectives, evaluation, support materials, and implementation ideas. Some entries for both types of media also list relevant objectives from the California curriculum under the following headings: setting/course, objectives, critical thinking (clarifying issues, judging/using information, and drawing conclusions), study/basic skills, values/beliefs, and social skills. A directory of publishers/producers and an alphabetical list of programs are included. This update is designed as a supplement to the original guides and the 1987 updates. (MES)

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Technology in the Curriculum

Resource Guide 1988 Update

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Foreign Language

History-Social Science

Language Arts

Mathematics

Science

Visual & Performing Arts

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CALIFORNIA STATE DEPARTMENT OF EDUCATION
Bill Honig, Superintendent of Public Instruction • Sacramento, 1988

Technology in the Curriculum

Resource Guide 1988 Update

A Guide to the Instructional Use of Computers and Video in K-12

*Foreign Language
History-Social Science
Language Arts
Mathematics
Science
Visual and Performing Arts*

Produced for the *California State Department of Education*
by the *California Software Clearinghouse
San Mateo County Office of Education*
and the *California Instructional Video Clearinghouse
Stanislaus County Department of Education*

Publishing Information

Additional copies of the *Technology in the Curriculum Resource Guide 1988 Update* are available at \$3.50 per copy, plus sales tax for California residents. These 1988 updates are used in conjunction with previously issued *Technology in the Curriculum* (TIC) project materials. The entire set of previously issued materials is available at \$150 per set, plus sales tax, and consists of the following: six resource guides, one each in the areas of mathematics, science, history-social science, language arts, foreign language, and visual and performing arts; six data disks reflecting the printed information in these areas; four 1987 updates for language arts, history-social science, mathematics, and science; and an eleventh volume and accompanying disk, which consists of the documentation for *DataRelator*, a database management program developed for this project.

Orders should be placed with Publications Sales, California State Department of Education, P.O. Box 271, Sacramento, CA 95802-0271.

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ISBN 0-8011-0672-9 *Technology in the Curriculum* (eleven-volume set)

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Preface

Computer and video technologies offer exciting opportunities for furthering instructional goals in virtually all areas of the curriculum. The storage capacity and interactive capabilities of the microcomputer make it a powerful tool for delivering content and fostering critical thinking skills. Videocassette recorders give teachers the ability to show instructional video programs at their convenience and to stop, review and discuss, and restart programs. Computer and video programs have not only technological advantages but also tremendous potential to make learning more fun. By engaging the learner and increasing the learner's attentiveness to the content being delivered, technology can serve as a powerful instructional tool.

The key to realizing this potential lies in ensuring that the technology supports the regular curriculum and does not become an end in itself. To be used properly and to persist as an educational innovation, technology must enable teachers to teach current content more effectively and must provide them with the opportunity to teach new content as well. Teachers, lacking sufficient time to search for high quality programs to incorporate in their teaching, need resources which do some of the searching and reviewing for them.

The six original *Technology in the Curriculum* projects were designed to help teachers to use technology to enhance and extend their existing curricula. Their primary purpose was to organize information about computer and video programs and to serve as a tool for teaching content in mathematics, science, history-social science, English-language arts, foreign language, and the visual and performing arts. The projects identified parts of the curriculum best taught electronically or visually, identified high-quality software and video programs available to teach that content, and designed lesson plans that teachers could incorporate into their teaching repertoire. Those products, provided to every public school in California, are helping teachers achieve the learning objectives set forth by districts and the state.

This *Technology in the Curriculum Resource Guide 1988 Update*, like the original guides and the 1987 updates, contains lists of high-quality computer software and instructional video materials which have been correlated with the Department of Education's curriculum frameworks and standards and annotated for use in the classroom. However, because the 1988 update consists of a single volume, the listings for each of the original six subject areas have had to be limited. The titles included were selected as among the best available in each of the curriculum areas. This update is designed as a supplement to the original guides and the 1987 updates; the perforated pages can be added to the original volumes or to the 1987 update volumes.

Computers and similar technology can help teachers improve the curriculum and can contribute to the attainment of excellence in our schools. Without the support of technology, California will be hard-pressed to achieve its goals for school reform. Although the *Technology in the Curriculum* projects are an excellent step in the right direction, instructional improvement will not be due solely to the use of technology; hard work and the cooperation of educators at all levels will be required to meet our goals.

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Acknowledgments

This *1988 Update* was prepared under a contract from the California State Department of Education. It was a collaborative project administered by Ann Lathrop of the California Software Clearinghouse at the San Mateo County Office of Education and Harry Bakker of the California Instructional Video Clearinghouse at the Stanislaus County Department of Education. Coordination and support were provided by Donovan Merck, Administrator of the Office of Educational Technology, California State Department of Education, and members of his staff, Barbara Abbott and Frank Wallace. Computer software and instructional video programs were generously loaned by publishers and producers.

Technical support for the project was provided by Janice Marshall and Lisa Wooll of the California Software Clearinghouse at the San Mateo County Office of Education. The quality of this document was further enriched by the efforts of the project coordinators and teacher/evaluators listed on the introductory pages for each curriculum area section. They worked with very limited financial resources and within very strict time lines to complete this volume for you. They deserve our very sincere appreciation.

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Introduction

The goal of this *1988 Update* is to help you to identify the best new materials that have become available since the publication of the original guides and updates. Special emphasis has been placed on locating "Desirable" and "Exemplary" materials to meet curriculum goals for which few or no materials were located in earlier editions.

This volume is divided into six curriculum sections to match the six original guides. The pages are perforated to allow you to remove them and insert them in the original guides or updates if you prefer.

The first page of each curriculum area section has information on the computer software programs: a brief statement of focus; identification of the review sites, review coordinators, and teacher/evaluators; and a list of programs included. The second page of each section has similar information on the instructional video programs.

All programs in this volume are in the **List of Programs Included**. Programs reviewed but not included are not listed. Many of these may be considered for more comprehensive editions in the future but did not fit the specific areas of emphasis in the current volume. The funding available to develop, publish, and distribute this *1988 Update* was much less than in 1987; therefore, the scope of programs evaluated was more limited. The focus was to identify the best new programs in areas of greatest need and to meet new emphases in the state frameworks.

The curriculum matrices in the original guides were used for foreign language and for visual and performing arts. The curriculum matrices in the *1987 Updates* were used for science, mathematics, history-social science, and language arts. All materials in this volume have met one or more of the curriculum goals in these matrices.

Each year the teachers and students seem to become more critical in their evaluations, and this fact is reflected in the generally higher quality of many of the materials selected for this update. The computer software and instructional video programs included here all meet the California requirements for legal compliance. As in previous editions, only programs evaluated as "Desirable" or "Exemplary" are included.

Computer Software Component

Four criteria were used to select the computer software programs to be evaluated: very favorable reviews from members of the national Educational Software Evaluation Consortium, developers of the annual *Educational Software Preview Guide*; recommendations made by staff members of former *TIC* evaluation projects; an apparent close match to curriculum goals not met by programs in earlier volumes; and exciting new programs highly recommended by California educators who urged their review for possible inclusion in this volume. This evaluation was not as exhaustive as in previous years, when all new software published during the year was considered, nor was software reviewed for all curriculum areas and all grade levels. For example, the focus of the science and social science projects was almost entirely on locating software for kindergarten through sixth grade. The original goal was to locate five to ten new programs in each of the six curriculum areas. The language arts and foreign language projects identified fewer programs, and history-social science identified more. All computer software programs were classroom-tested by at least two teachers at appropriate grade levels.

Instructional Video Component

This Update contains both instructional television broadcast series and single-focus, stand-alone instructional video programs. All the programs received at least five evaluations, with most programs receiving ten. Programs were considered for review if they were produced after January, 1986, and had not been considered by any previous *Technology in the Curriculum* project. Trained evaluators used the Video Clearinghouse's preview criteria and preview evaluation form. This evaluation instrument includes a technical quality strand and an instructional quality strand. Four criteria make up the instructional quality strand: instructional design, content, curricular match (to the appropriate state framework), and interest. No instructional video programs were recommended in mathematics.

Again, the primary focus was to identify the best new materials appropriate to the California frameworks while staying within the limits of the funds available for evaluation and publication. We hope that we have met our goal in a manner that will be helpful to you in your daily classroom activities.

Harry Bakker
California Instructional Video Clearinghouse

Ann Lathrop
California Software Clearinghouse

Technology in the Curriculum Resource Guide: Foreign Language – 1988 Update

Computer Software Component

Foreign language software was reviewed for this *1988 Update* according to the same criteria used for the original resource guide. All efforts were directed toward selecting the best programs that have become available since the original guide was prepared late in 1986. A special emphasis was placed on the search for highly communicative software.

Project Staff

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Recommended Technology

Title	Rating	Page
Ticket to Paris	D	5
Ticket to Spain	D	6

Instructional Video Component

Foreign language instructional video was reviewed for this 1988 Update according to the same criteria used for the original resource guide.

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Recommended Technology

Title	Rating	Page
Comerciales en Español	D	5

Recommended Technology



Comerciales en Español

- Source:** Gessler Publishing Company, Inc. **Rating:** Desirable
Language: Spanish **Language Level:** First – Fourth Years
Grade: 9 – 12
Description: Seventy-one Spanish TV commercials assembled especially for Spanish classes combine visual recognition of familiar products with contemporary Spanish and Latin culture.
Evaluation: This collection of commercials recorded from Spanish television is an excellent source of cultural information. The commercials are enjoyable, challenging, and lively.
Mode: Listening, Reading, Fine Arts, Signs & Signals
Function: Exchanging Information, Expressing Feelings, Observing Social Conventions
Content/Context: This program can be adapted to presentations in all categories.
Accuracy: This program's content is not organized by this category.
Length: 45 minutes
Support Materials: An audiocassette script and a printed script accompany the program.
Copyright Date: 1988



Ticket to Paris

- Source:** Blue Lion Software **Rating:** Desirable
Language: French **Language Level:** Second – Fourth Years
Grade Level: 7 – 12
Description: You have been sent to Paris to find your long lost cousin. The only way to find him is to follow the clues he sometimes sends you. In the process of your search you must book rooms, order from menus, change money, ride the *métro*, and do all those things a tourist must do and all in French. Parisian life and custom are the context of this interesting game.
Evaluation: The program is graphically attractive and intellectually stimulating.
Mode: Reading, Writing
Function: Observing Social Conventions, Exchanging Information, Regulating Activities, Regulating Conversations
Content/Context: Time, Food, Objects, Interactions with People, Immediate Environment, Daily Activities, Personal Needs, Locations & Geography, Leisure & Free Time, Travel & Transportation, Culture
Accuracy: This program's content is not organized by this category.
Support Materials: Simple documentation includes program instructions.
Preparation: Very little preparation is required.
Classroom Setting: Individual students or small groups
Program Type: Simulation
Equipment: Apple II series; IBM; Commodore 64/128; color monitor desirable.
Price: \$49.95 **Copyright Date:** 1986
 Lab pack (6) \$85.00



Ticket to Spain

Source: Blue Lion Software

Rating: Desirable

Language: Spanish

Language Level:

Second – Fourth Years

Grade Level: 7 – 12

Description: A family heirloom is your quest in this adventure which takes you on a trip through Spain. Your budget is limited, and you are required to perform a number of tasks, all of which give you the opportunity to use your knowledge of the Spanish language and the cultures of Spain.

Evaluation: The program is graphically attractive and intellectually stimulating. Provides students with an interesting environment in which to use Spanish.

Mode: Reading, Writing

Function: Observing Social Conventions, Exchanging Information, Regulating Activities, Regulating Conversations

Content/Context: Time, Food, Objects, Interactions with People, Immediate Environment, Daily Activities, Personal Needs, Locations & Geography, Leisure & Free Time, Travel & Transportation, Culture

Accuracy: This program's content is not organized by this category.

Support Materials: Simple documentation includes program instructions.

Preparation: Very little preparation is required.

Classroom Setting: Individual students or small groups

Program Type: Simulation

Equipment: Apple II series; IBM; Commodore 64/128; color monitor desirable.

Price: \$49.95

Copyright Date: 1987

Lab pack (6) \$85.00

Technology in the Curriculum Resource Guide: History-Social Science – 1988 Update

Computer Software Component

The focus of this 1988 *Update* evaluation process has been to select the best software that has become available since the last update, with an emphasis on software that is particularly applicable to use by an entire class or other groups. A special effort was made to locate material that was appropriate for the specific ability levels in kindergarten through sixth grade. The process and the evaluation guidelines were quite similar to those used in the original resource guide.

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Recommended Technology

Title	Rating	Page
Crosscountry California	D	11
Decisions, Decisions: Urbanization – The Growth of Cities	E	12
49ers	E	13
GeoWorld: A Living Database	E	14
Golden Spike	E	15
Interviews with History	D	16
Lollipop Dragon's World of Maps and Globes: Exploring Maps and Globes	D	17
Spy's Adventure	D	21
TimeLiner	E	23
Treasure Hunt	E	24
Westward Ho!	E	25

Instructional Video Component

Over 600 instructional video programs that became available since the last update were reviewed. The programs were aligned with the curriculum matrix published in the original resource guide. Only programs rated as "Exemplary" were selected for this section of the 1988 Update.

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Recommended Technology

Title	Rating	Page
Children of Japan: Learning the New, Remembering the Old	E	10
Loving Rebel	E	18
South America	E	19
Standing Up For Yourself	E	22
World of Charles Dickens	E	26

Recommended Technology



Children of Japan: Learning the New, Remembering the Old

SOURCE Walt Disney
Educational Media

GRADES 6

RATING Exemplary

LENGTH OF PROGRAM 23 minutes

COPYRIGHT 1987

DESCRIPTION

This documentary focuses on the life of a sixth-grade boy. As the boy writes to an American pen pal about his life in Tokyo, the program explores what it's like to be Japanese. The program highlights the boy's school, the Japanese countryside, the new Japan – the popular Harajuku neighborhood of the capital city and the 1950s rock n' roll – and the old Japan – the daily family life and a visit to a shrine.

EVALUATION

This program offers a good cross-section of life in Japan today. The student narrator enhances the production, giving the feeling that this really is his family and his country – a country of which he can be proud.

SUPPORT MATERIALS The teacher's guide includes instructional objectives, pre-viewing activities and strategies, a synopsis, post-viewing questions and activities, and a glossary of Japanese words.

SETTING COURSE 6.0 Our World, Its Diverse Peoples, and Their Societies

- OBJECTIVES**
- 6.1 Earth as home for human beings (geography skills) (6.11, 6.15, 6.111)
 - 6.2 The world's diverse peoples and the reasons for differences in appearance and behavior (6.22)
 - 6.4 Why human societies develop different "ways of life" or diverse cultures (6.41)
 - 6.6 Technology: tools, toolmakers, tool users, and technological change, yesterday and today (6.61, 6.62)

CRITICAL THINKING

- Clarifying Issues
 - C.11 Identify central issues or problems
 - C.12 Identify similarities and differences
 - C.13 Determine which information is relevant
- Judging/Using Information
 - C.21 Recognize stereotypes and cliches
 - C.22 Recognize obvious bias, emotional factors, propaganda, and semantic slanting
- Drawing Conclusions
 - C.33 Test conclusions or hypotheses
 - C.37 Recognize immediate implications

STUDY/BASIC SKILLS

- B.1 Acquire information through listening, observing
- B.3 Compile, organize, and evaluate information presented in media

VALUES/BELIEFS

- V.12 Equality (Equal Opportunity, Equity)
- V.14 Authority (Following Rules, Obeying Leaders, Accepting Orders)
- V.21 Diversity (Variety, Individual Differences)

SOCIAL SKILLS

- S.1 Feel for others; empathize with them; be sensitive to their needs, problems, and aspirations
- S.2 Understand multiple perspectives of others

POTENTIAL USE(S) Motivator, enrichment, post-lesson activity, supplement, homework



Crosscountry California

SOURCE Didatech Software

GRADES 4

RATING Desirable

DESCRIPTION

In this simulation, students are truck drivers in California going from city to city to pick up or deliver products. The program features 150 cities and 50 commodities. Students must plan carefully to follow the best routes and to manage their time and money wisely.

EVALUATION

Students can really learn their way around all the corners of the state and the commodities are located accurately. Also, the "games" are as realistic as possible. Students must deal with many situations, including getting gas, getting proper rest and food, avoiding accidents, and coping with bad weather. There is a customizing feature which requires an initialized disk and a printer.

SUPPORT MATERIALS	Support materials include a teacher's guide, a large map of California, a cross-reference card, and small maps of California for duplication. 1 disk, 1 backup		
TYPE OF PROGRAM	Simulation		
SETTING/COURSE	4.0	The People of a Region: California	
OBJECTIVES	4.110	Work with distance, directions, scale, and map symbolization	
	4.21	Collect data on California from maps, charts, graphs, newspapers, books, and pictures	
	4.73	Identify the major industries of California	
CRITICAL THINKING			
•Clarifying Issues	C.13	Determine which information is relevant	
Judging/Using Information	C.26	Recognize clearly insufficient data	
•Drawing Conclusions	C.31	Identify reasonable alternatives	
	C.32	Predict possible consequences	
	C.33	Test conclusions or hypotheses	
	C.34	Reason hypothetically	
STUDY/BASIC SKILLS	B.4	Extract and interpret information from maps, models, graphs, charts, tables, pictures, and cartoons	
VALUES/BELIEFS	Not Applicable		
SOCIAL SKILLS	S.7	Work effectively with others as members of groups	
POTENTIAL USE(S)	Enrichment: Students may keep logs of their travels, write letters to the actual cities, or write stories of their trips. Motivational: Students may work together in pairs or cooperative learning groups to see who can perform most efficiently. Pre-lesson and post-lesson activity: Make maps of each trip. Research commodities for more information.		
EASE OF USE	Some teacher and student computer experience is desirable. Moderate teacher preparation is required.		
STUDENT GROUPING	Pairs, small groups, large groups, class	EQUIPMENT	Apple II series, 128K
SUGGESTED TIME	30 minutes	NUMBER OF SESSIONS	Unlimited
COPYRIGHT DATE	1987	PRICE	\$49.95 Lab pack (5) \$99.95 Site license available



Decisions, Decisions: Urbanization – The Growth of Cities

SOURCE Tom Snyder Productions **GRADES** 5 **RATING** Exemplary

DESCRIPTION

This program develops the students' understanding of the choices communities must make when they face pressure to grow. The students assume the role of mayor of a small rural community caught in the middle of a mining boom. Students must prioritize their goals and discuss alternatives.

EVALUATION

This highly motivational program increases the students' awareness of the complexities involved in making decisions which will affect the life the town has always known.

SUPPORT MATERIALS	The resource guide includes lesson plans, additional activities, handouts, and 24 student reference books. 1 disk, 1 backup		
TYPE OF PROGRAM	Simulation		
SETTING/COURSE	5.0	The People of a Nation: The United States of America	
OBJECTIVES	5.114	Discern ways in which personal choices and public decisions influence environmental quality	
	5.62	Summarize changing nature of U.S. economy during the colonial, 19th century, and modern periods	
CRITICAL THINKING			
•Clarifying Issues	C.11	Identify central issues or problems	
	C.16	Recognize individual and group value orientations and ideologies	
Judging/Using Information	C.22	Recognize obvious bias, emotional factors, propaganda, and semantic slanting	
	C.23	Distinguish among fact, opinion, and reasoned judgement	
•Drawing Conclusions	C.31	Identify reasonable alternatives	
	C.36	Recognize indirect or extended implications	
	C.37	Recognize immediate implications	
STUDY/BASIC SKILLS	B.1	Acquire information through listening, observing, reading, and utilizing community resources	
VALUES/BELIEFS	V.16	Participation (Involvement)	
	V.18	Personal obligation for the public good (Service, Support, Interdependence, Cooperation, Know the Law)	
SOCIAL SKILLS	S.2	Understand multiple perspectives of others	
	S.4	Recognize one's own biases and prejudices on historical and social phenomena	
POTENTIAL USE(S)	Program is useful for cooperative groups and includes excellent writing activities. Good for classrooms utilizing one computer. Generates group discussions and debates. Can also be used for language arts activities.		
EASE OF USE	Moderate teacher and student computer experience and preparation are required.		
STUDENT GROUPING	Small groups	EQUIPMENT	Apple II series, IBM
SUGGESTED TIME	45 minutes	NUMBER OF SESSIONS	5
COPYRIGHT DATE	1986	PRICE	\$119.95



The 49ers

SOURCE Hartley Courseware

GRADES 4, 5

RATING Exemplary

DESCRIPTION

Simulation game for westward travel. Children make decisions and answer questions, gain points, and either arrive safely to find gold or die enroute.

EVALUATION

A highly motivational program which helps students learn to read maps and directions, make decisions, and use text to answer questions about the westward movement. Flexibility provided by many teacher options: fast or slow response, hard or easy questions, substitute teacher's own questions, save game in progress, print background information, etc.

SUPPORT MATERIALS Support materials include teacher's guide and two student guides. 1 disk, 1 backup, 2 student disks

TYPE OF PROGRAM Simulation

SETTING/COURSE
4.0 The People of a Region: California
5.0 The People of a Nation: The United States of America

OBJECTIVES
4.1 California: Its land and its environment (4.11, 4.19, 4.110)
5.11 Recognize distance, direction, scale, map symbols, and the relationship of maps and globes
5.51 Describe major U.S. historical events in terms of cause and effect

CRITICAL THINKING

•Clarifying Issues
C.11 Identify central issues or problems
C.13 Determine which information is relevant

•Judging/Using Information
C.23 Distinguish among fact, opinion, and reasoned judgement

•Drawing Conclusions
C.31 Identify reasonable alternatives
C.32 Predict possible consequences
C.34 Reason hypothetically

STUDY/BASIC SKILLS B.4 Extract and interpret information from maps, models, graphs, charts, tables, pictures, and cartoons

VALUES/BELIEFS V.17 Respect for persons and property (Security, Protection, and Private Ownership)

SOCIAL SKILLS
S.7 Work effectively with others as members of groups
S.8 Give and receive constructive criticism

POTENTIAL USE(S) Motivator: To get students interested. Enrichment: For those who want to do in-depth study. Extend: Students could make up questions and add them to game.

EASE OF USE Some teacher and student computer experience. Teacher preparation from little (use game as is) to extensive (write new questions, change options).

STUDENT GROUPING pairs, small group

EQUIPMENT Apple II series, 1 or 2 drives, color monitor desirable

SUGGESTED TIME 30 minutes

NUMBER OF SESSIONS 4-5

COPYRIGHT DATE 1986

PRICE \$79.95



GeoWorld: A Living Database

SOURCE Tom Snyder Productions

GRADES 5, 6

RATING Exemplary

DESCRIPTION

In this simulation, students can explore an accurate worldwide database of natural resources. In either game or research format they can use a geologist's tools and tests (presented graphically) to search for major mineral deposits. Information gathered can be stored in *AppleWorks* format for further analysis and report writing.

EVALUATION

The program provides exposure to world geography, natural resources, rock formations, geological testing, and the interpretation of maps, meters, charts, and diagrams. Many critical thinking skills are exercised in using the program.

SUPPORT MATERIALS	Extensive teacher's guide has objectives, directions, lesson plans, suggestions, blackline masters, and reference material. 1 disk, 1 backup		
TYPE OF PROGRAM	Simulation		
SETTING/COURSE	5.0	The People of a Nation: The United States of America	
	6.0	Our World, Its Diverse Peoples, and Their Societies	
OBJECTIVES	5.11	Recognize distance, direction, scale, map symbols, and the relationship of maps and globes	
	6.13	Readily use latitude, longitude, map symbols, time zones, and basic earth-sun relationships	
	6.111	Plot distributions of population and key resources on regional maps	
CRITICAL THINKING			
•Clarifying Issues	C.13	Determine which information is relevant	
Judging/Using Information	C.23	Distinguish among fact, opinion, and reasoned judgement	
	C.26	Recognize clearly insufficient data	
•Drawing Conclusions	C.32	Predict possible consequences	
	C.33	Test conclusions or hypotheses	
STUDY/BASIC SKILLS	B.2	Locate information in textbooks, encyclopedias, specialized dictionaries, almanacs, and other reference materials	
	B.3	Compile, organize, and evaluate information presented in books, periodicals, and other media	
	B.4	Extract and interpret information from maps, models, graphs, charts, tables, pictures, and cartoons	
VALUES/BELIEFS	Not Applicable		
SOCIAL SKILLS	S.7	Work effectively with others as members of groups	
POTENTIAL USE(S)	Motivational: Small cooperative groups or the whole class can explore the database and learn about the distribution of resources in our interdependent world. Enrichment and Extension: Independent research and reporting.		
EASE OF USE	The program requires moderate computer experience on the part of the teacher and students, and moderate teacher preparation. All needed information is included. Some study will be needed for beginners.		
STUDENT GROUPING	Class, groups, individuals	EQUIPMENT	Apple II series
SUGGESTED TIME	Varies	NUMBER OF SESSIONS	5-10
COPYRIGHT DATE	1986	PRICE	\$79.95; Lab pack (10) \$240.00



The Golden Spike

SOURCE National Geographic Society **GRADES** 4, 5 **RATING** Exemplary

DESCRIPTION

The Golden Spike is a multimedia package focusing on the history and geography of the construction of the transcontinental railroad. It includes two simulations, "Sacramento to Promontory" and "Omaha to Promontory." Students construct their own railroads, following either the historical route or a route of their own choosing.

EVALUATION

These programs are of high technical quality with a variety of relevant support materials. Students find them motivational and challenging.

SUPPORT MATERIALS	The extensive teacher's guide includes activity sheets. Other materials include student reference booklets, filmstrip, and audio cassette. 2 disks, 2 backups		
TYPE OF PROGRAM	Simulation		
SETTING/COURSE	4.0	The People of a Region: California	
	5.0	The People of a Nation: The United States of America	
OBJECTIVES	4.1	California: Its land and its environment (geography skills) (4.15, 4.19, 4.110)	
	5.1	The land we call the United States (geography skills) (5.11, 5.12, 5.13)	
CRITICAL THINKING			
•Clarifying Issues	Not Applicable		
Judging/Using Information	Not Applicable		
•Drawing Conclusions	C.32	Predict possible consequences	
	C.33	Test conclusions or hypotheses	
STUDY/BASIC SKILLS	B.1	Acquire information through listening, observing, reading, and utilizing community resources	
VALUES/BELIEFS	Not Applicable		
SOCIAL SKILLS	Not Applicable		
POTENTIAL USE(S)	This program can be used as a motivator, pre-lesson activity, as a supplement, for enrichment, as post-lesson activity, as an extension lesson. It is suggested that in all cases it be used as part of a major unit on building the transcontinental railroad.		
EASE OF USE	Moderate teacher and student computer experience is required. Some teacher preparation time is required to learn the program and replicate the activity sheets.		
STUDENT GROUPING	Individual, or with groups of all sizes including whole class	EQUIPMENT	Apple II series, IBM
SUGGESTED TIME	20-30 minutes	NUMBER OF SESSIONS	Will vary
COPYRIGHT DATE	1987	PRICE	\$109.50; Lab pack (5) \$159.50



Interviews with History

SOURCE Educational Publishing Concepts **GRADES** 5 **RATING** Desirable

DESCRIPTION

Six disks contain twelve interactive interviews with characters in American history from Columbus to Martin Luther King, Jr.. Students receive an interview assignment (worksheet) and "talk" to their animated subjects by choosing from a short list of possible questions that changes with each interchange. A ten-question test is given, and both the score and the number of frames the student worked with are recorded on the master disk.

EVALUATION

This program is a unique approach to making history and historical characters come alive. The excellent animation and style of conversation are true to the personalities of each character. The dialogues help students to increase their understanding of why people acted as they did or what caused significant events.

SUPPORT MATERIALS Support materials include a teacher's manual, interview sheets, and a test. 7 disks

TYPE OF PROGRAM Simulation

SETTING/COURSE 5.0 The People of a Nation: The United States of America

OBJECTIVES

- 5.51 Describe major U.S. historical events in terms of cause and effect
- 5.61 Explain social changes in the past: voting, labor, women's rights, civil rights, education
- 5.72 Gather and interpret information from graphs, charts, cartoons, pictures, and primary sources

CRITICAL THINKING

•**Clarifying Issues**

- C.13 Determine which information is relevant
- C.16 Recognize individual and group value orientations and ideologies

•**Judging/Using Information** C.25 Recognize simple, unstated assumptions

•**Drawing Conclusions** C.36 Recognize indirect or extended implications

STUDY/BASIC SKILLS B.1 Acquire information through listening, observing, reading, and utilizing community resources

VALUES/BELIEFS

- V.23 Freedom (Right to Independent Action, Choice, Speech and Expression, Religion and Conscience)
- V.25 Human rights (Life, Liberty, Self-Esteem, Dignity, Compassion)

SOCIAL SKILLS

- S.1 Feel for others; empathize with them; be sensitive to their needs, problems, and aspirations; see things as others see them; take the perspectives of others
- S.2 Understand multiple perspectives of others
- S.5 See people as individuals rather than applying stereotypes to them or classifying them arbitrarily as members of particular groups

POTENTIAL USE(S) Enrichment: Students can utilize information from these interviews for "Ten Clues," for writing biographies, or for further studies of the issues each subject discusses.

EASE OF USE Some teacher and student computer experience is desirable. Moderate teacher preparation is required. A management system is included on the master disk.

STUDENT GROUPING Individuals, pairs, small groups, class

EQUIPMENT Apple II series

SUGGESTED TIME 20-40 minutes

NUMBER OF SESSIONS 4-6 per interview

COPYRIGHT DATE 1987

PRICE \$199.50



Lollipop Dragon's World of Maps and Globes: Exploring Maps and Globes

SOURCE Society for Visual Education **GRADES** 2, 3 **RATING** Desirable

DESCRIPTION

Exploring Maps and Globes consists of three activities in a game format that reinforce concepts of cardinal directions, map symbols, and making a floor plan. There is also a general quiz on map features. It is designed for primary grades and makes liberal use of graphics.

EVALUATION

The computer activities are designed to supplement the teaching filmstrips and worksheets included in the package and would not stand alone as a teaching tool.

SUPPORT MATERIALS Support materials include four sound filmstrips and 20 blackline masters. 1 disk

TYPE OF PROGRAM Instructional games

SETTING/COURSE 2.0 People as Members of Groups
3.0 People as Members of Communities

OBJECTIVES 2.12 Interpret map symbols using a legend
2.17 Differentiate between maps and globes
3.11 Use distance, direction, scale, symbols

CRITICAL THINKING

•Clarifying Issues Not Applicable
•Judging/Using Information Not Applicable
•Drawing Conclusions Not Applicable

STUDY/BASIC SKILLS B.4 Extract and interpret information from maps, models, graphs, charts, tables, pictures, and cartoons

VALUES/BELIEFS Not Applicable

SOCIAL SKILLS Not Applicable

POTENTIAL USE(S) Motivator, Supplement, Post-lesson activity. Could be used to reinforce and supplement beginning instruction on map directions, symbols, use of key, scale, and distance.

EASE OF USE Teacher needs minimal experience with computers; students need have no previous experience. Teacher preparation is minimal.

STUDENT GROUPING Pairs, small groups **EQUIPMENT** Apple II series, ImageWriter or Epson needed for printouts (optional)

SUGGESTED TIME 15-20 minutes per session **NUMBER OF SESSIONS** 5

COPYRIGHT DATE 1987 **PRICE** \$189.00 complete set
\$49.00 software only



Loving Rebel

SOURCE Centre Productions Inc. **GRADES** 11, 12 **RATING** Exemplary

LENGTH OF PROGRAM 25 minutes **COPYRIGHT** 1987

DESCRIPTION

This program chronicles the life of Helen Hunt Jackson, one of the most prolific writers of the nineteenth century and an advocate of American Indian rights. Her life exhibits the significant role American women played in history. Her book *Ramona* has had an important impact on righting the wrongs of the treatment of the American Indian.

EVALUATION

The production makes good use of nineteenth century drawings and photographs. The male narrator is interesting, his narrative juxtaposed with a feminine voice portraying Helen Hunt Jackson. Music and sound effects enhance the production. This is a program that all high school students should see.

SUPPORT MATERIALS A teacher's guide includes instructional objectives, a program synopsis, and suggested pre- and post-viewing questioning strategies and activities.

SETTING/COURSE 11.0 United States History and Geography
12.0 American Government and Civics

OBJECTIVES 11.11 Aftermath of the war and the emergence of modern America (c.1865-1890)
(11.111, 11.117)
12.4 Civil liberties and civil rights (12.44)

CRITICAL THINKING

•Clarifying Issues C.11 Identify central issues or problems
C.16 Recognize individual and group value orientations and ideologies

•Judging/Using Information C.22 Recognize obvious bias

•Drawing Conclusions C.36 Recognize indirect or extended implications

STUDY/BASIC SKILLS B.2 Locate information in other reference materials
B.3 Compile, organize, and evaluate information presented in media

VALUES/BELIEFS V.17 Respect for persons and property (Security, Protection),
V.18 Personal obligation for the public good (Service, Support, Interdependence)
V.24 Due process (Fairness, Protection of Minority Views)

SOCIAL SKILLS S.1 Feel for others; empathize with them; be sensitive to their needs, problems,
and aspirations
S.2 Understand multiple perspectives of others

POTENTIAL USE(S) Enrichment, post-lesson activity, homework



South America (Five 15-minute to 20-minute programs)

SOURCE Stanton Films **GRADES** 6, 7, 10 **RATING** Exemplary **COPYRIGHT** 1987

SERIES DESCRIPTION

This five-part series highlights key elements for the study of South America – cultures, geography, industry and agriculture, rural and urban life.

EVALUATION

This series examines objectively the resources, the goals and aspirations, the serious problems confronting South America today. It attempts to develop an appreciation for and understanding of our hemispheric neighbors. Although the program seems best designed for grades six and seven, it could be very useful for the non-college bound students at the high school level.

SUPPORT MATERIALS	A teacher's guide for each program includes the purposes for the program and a comprehensive overview of the content.
SETTING/COURSE	6.0 Our World, Its Diverse Peoples, and Their Societies 7.0 The Changing World 10.0 World History, Culture, and Geography
OBJECTIVES	6.1 Earth as home for human beings (geography skills) 6.2 World's diverse peoples and the reasons for differences in appearance and behavior 6.3 Human needs and life experiences common to all people 6.6 Technology: tools, toolmakers, tool users, and technological change yesterday and today 6.9 Earth's people working together 7.1 Knowledge about the geography of the world and how it has changed over the centuries (review K-6 geography skills) 7.2 The transition from prehistoric to historic times 7.7 Facing change in the world today and tomorrow 10.8 Contemporary cultures (the present)
CRITICAL THINKING	
•Clarifying Issues	C.11 Identify central issues or problems C.12 Identify similarities and differences
•Judging/Using Information	C.21 Recognize stereotypes and cliches C.22 Recognize obvious bias, emotional factors, propaganda
•Drawing Conclusion	C.31 Identify reasonable alternatives C.32 Predict possible consequences
STUDY/BASIC SKILLS	B.1 Acquire information through listening, observing B.3 Compile, organize, and evaluate information presented in media
VALUES/BELIEFS	V.14 Authority (Following Rules, Obeying Leaders, Accepting Orders) V.16 Participation (Involvement) V.21 Diversity (Individual Differences) V.25 Human rights (Life, Liberty, Self-Esteem, Dignity, Compassion)
SOCIAL SKILLS	S.1 Feel for others; empathize with them; be sensitive to their needs, problems, and aspirations S.2 Understand multiple perspectives of others S.5 See people as individuals rather than applying stereotypes to them
POTENTIAL USE(S)	Enrichment, post-lesson activity, supplement, homework

South America

Individual Program Descriptions (Only the four programs listed below met the criteria for inclusion in this update.)

#1: Physical Geography (19 minutes)

DESCRIPTION This program highlights the varied geography of the continent and its effect on the lives of the people. It describes the many regions, climates, and land formations and points out the differences between tropical and temperate regions.

OBJECTIVES

- 6.1 Earth as home for human beings (geography skills) (6.15, 6.16, 6.110)
- 6.3 Human needs and life experiences common to all peoples (6.31)
- 7.1 Knowledge about the geography of the world and how it has changed over the centuries (7.12)

#2: Blend of Cultures (17 minutes)

DESCRIPTION This episode examines the many diverse elements which make up the culture of modern South America – Indian, Spanish, Portuguese, Eastern European, Asian, and African.

OBJECTIVES

- 6.2 World's diverse peoples and the reasons for differences in appearance and behavior (6.22)
- 6.6 Technology: tools, toolmakers, tool users, and technological change yesterday and today (6.61)
- 6.9 Earth's people working together (6.91, 6.93)
- 7.2 Transition from prehistoric to historic times (7.23)
- 7.7 Facing change in the world today and tomorrow (7.71, 7.72)
- 10.8 Contemporary cultures (the present) (10.84)

#3: Rural Life (15 minutes)

DESCRIPTION This program depicts country life throughout the continent today. It shows the varied ways rural folk provide for their needs. A segment contrasts the poverty of the subsistence farms with the great wealth of the large agricultural operations.

OBJECTIVES

- 6.6 Technology: tools, toolmakers, tool users, and technological change yesterday and today (6.61)
- 7.7 Facing change in the world today and tomorrow (7.71, 7.72)
- 10.8 Contemporary cultures (the present) (10.84)

#4: Agriculture and Industry (20 minutes)

DESCRIPTION This program explores the development of agriculture and industry. It describes the value of each to the economy. It stresses the need for diversification, assesses the impact of industrial growth, and notes the economic interdependence of all nations.

OBJECTIVES

- 6.6 Technology: tools, toolmakers, tool users, and technological change yesterday and today (6.61)
- 6.9 Earth's people working together (6.91, 6.93)
- 7.7 Facing change in the world today and tomorrow (7.71, 7.72)
- 10.8 Contemporary cultures (the present) (10.84)



The Spy's Adventure

SOURCE Polarware

GRADES 7, 8, 11

RATING Desirable

DESCRIPTION

Through geography and clues, the student travels around three continents seeking jewels and The Spy. Each program consists of multiple games, with jewels, clues, and the spy in different locations, so students can play many times. The three programs are *Adventures in Europe*, *Adventures in North America*, and *Adventures in South America*.

EVALUATION

Graphics add to the appeal of this highly motivational game. Students explore the natural regions and cities of each continent through the use of maps. The more the students know of geography, the more successful they are. Each graphic display has clues to add to students' knowledge of the chosen region.

SUPPORT MATERIALS Each program has instructions and a large map of area. 1 disk per program

TYPE OF PROGRAM Simulation, instructional game

SETTING/COURSE

- 4.0 The People of a Region: California
- 5.0 The People of a Nation: The United States of America
- 6.0 Our World, Its Diverse Peoples, and Their Societies
- 7.0 The Changing World

OBJECTIVES

- 4.1 California: Its land and its environment (geography skills) (4.11, 4.19, 4.110)
- 5.1 The land we call the United States (geography skills) (5.11, 5.13, 5.18)
- 6.1 Earth as home for human beings (geography skills) (6.11, 6.12, 6.13, 6.14)
- 7.1 Knowledge about the geography of the world and how it has changed over the centuries (review K-6 geography skills) (7.11, 7.12)

CRITICAL THINKING

- Clarifying Issues
 - C.13 Determine which information is relevant
 - C.15 Express problems clearly and concisely
- Judging/Using Information
 - C.24 Recognize simple inconsistencies and contradictions
 - C.25 Recognize simple, unstated assumptions
 - C.26 Recognize clearly insufficient data
- Drawing Conclusions
 - C.31 Identify reasonable alternatives
 - C.32 Predict possible consequences

STUDY/BASIC SKILLS

- B.2 Locate information in textbooks, encyclopedias, specialized dictionaries, almanacs, and other reference materials
- B.4 Extract and interpret information from maps, models, graphs, charts, tables, pictures, and cartoons

VALUES/BELIEFS

- V.16 Participation (Involvement)
- V.17 Respect for persons and property (Security, Protection, Private Ownership)

SOCIAL SKILLS S.7 Work effectively with others as members of groups

POTENTIAL USE(S) Motivator for special needs students. Enrichment for primary students. Post-lesson activity. Supplement. Extend.

EASE OF USE No teacher or student computer experience is required. Minimal teacher preparation.

STUDENT GROUPING 1 to 6 individuals, or groups **EQUIPMENT** Apple II series

SUGGESTED TIME 30 minutes **NUMBER OF SESSIONS** Unlimited

COPYRIGHT DATE 1986 **PRICE** \$17.95 for each program



Standing Up For Yourself

(from the *Taking Responsibility* series)

SOURCE Coronet Film and Video **GRADES** 1, 2, 3 **RATING** Exemplary

LENGTH OF PROGRAM 11 minutes **COPYRIGHT** 1986

DESCRIPTION

The program encourages students to identify their personal rights to their bodies, their feelings, their space, and their property, as well as their right to feel good about themselves. The program reminds children that some attempts to stand up for themselves will not be successful and that sometimes they need help from adults.

EVALUATION

The clever animation and clear narrative blend to produce a powerful program. The segment on child abuse (touching by adults) is very carefully developed.

SUPPORT MATERIALS The teacher's guide's includes instructional objectives, a synopsis, and post-viewing activities.

SETTING/COURSE

- 1.0 People at Home and at School
- 2.0 People as Members of Group
- 3.0 People as Members of Communities

OBJECTIVES

- 1.4 Roles people play in my family and at my school (1.43)
- 1.7 Cooperation, conflict, and communication at home and school (1.71)
- 2.7 Rules, responsibilities, and group norms (2.72)
- 2.8 Communication, problem solving, and decision making in groups (2.82)
- 2.9 Cooperation and conflict within/between groups (2.92)
- 3.7 Cooperation, conflict, and communication within our community (3.71)

CRITICAL THINKING

•Clarifying Issues

- C.11 Identify central issues or problems
- C.13 Determine which information is relevant
- C.15 Express problems clearly and concisely
- C.16 Recognize individual and group value orientations and ideologies

•Judging/Using Information

•Drawing Conclusions

- C.31 Identify reasonable alternatives
- C.32 Predict possible consequences
- C.37 Recognize immediate implications

STUDY/BASIC SKILLS

- B.1 Acquire information through listening, observing
- B.3 Compile, organize, and evaluate information presented in media
- B.5 Communicate orally and in writing

VALUES/BELIEFS

- V.14 Authority (Following Rules, Obeying Leaders, Accepting Orders)
- V.15 Responsibility (Following Through, Efficiency)
- V.17 Respect for persons and property (Security, Protection, Private Ownership)
- V.25 Human rights (Life, Liberty, Self-Esteem, Dignity, Compassion)

SOCIAL SKILLS

- S.1 Feel for others; empathize with them; be sensitive to their needs, problems, and aspirations
- S.7 Work effectively with others as members of groups
- S.9 Accept responsibility and demonstrate respect for the rights, opinions, and property of others in the classroom, the school, and in the larger community

POTENTIAL USE(S) Motivator, supplement, post-viewing activity



TimeLiner

SOURCE Tom Snyder Productions **GRADES** K-12 **RATING** Exemplary

DESCRIPTION

The program uses a printer to generate time lines ranging from hours to centuries. It helps student to research and organize information.

EVALUATION

This highly motivational program helps students to develop a better understanding of complex historical events. It helps students distinguish between the past and present.

SUPPORT MATERIALS Teacher's guide includes many suggested activities, student worksheets, and projects. 1 disk

TYPE OF PROGRAM Research

SETTING/COURSE Useful in many settings/courses in grades K-12

OBJECTIVES Many

CRITICAL THINKING

- Clarifying Issues
 - C.12 Identify similarities and differences
 - C.15 Express problems clearly and concisely
 - Judging/Using Information
 - C.26 Recognize clearly insufficient data
 - Drawing Conclusions
 - C.32 Predict possible consequences
 - C.36 Recognize indirect or extended implications
- STUDY/BASIC SKILLS**
- B.2 Locate information in textbooks, encyclopedias, specialized dictionaries, almanacs, and other reference materials
 - B.3 Compile, organize, and evaluate information presented in books, periodicals, and other media
 - B.4 Extract and interpret information from maps, models, graphs, charts, tables, pictures, and cartoons
- VALUES/BELIEFS** Not Applicable
- SOCIAL SKILLS**
- S.4 Recognize one's own biases and prejudices on historical and social phenomena
 - S.7 Work effectively with others as members of groups

POTENTIAL USE(S) Chart daily, weekly, monthly, annual events. Research events and put history into perspective. Chart students' lives.

EASE OF USE Some teacher and extensive student computer experience required. Moderate teacher preparation required.

STUDENT GROUPING Pairs **EQUIPMENT** Apple II series, printer disk drive(s)

SUGGESTED TIME 25 minutes **NUMBER OF SESSIONS** 3

COPYRIGHT DATE 1987 **PRICE** \$59.95; Lab pack (10) \$180.00



Treasure Hunt

SOURCE McGraw-Hill **GRADES** K-3 **RATING** Exemplary

DESCRIPTION

Students move through five skill levels of maps of increasingly larger areas to find a treasure.

EVALUATION

This highly motivational instructional game is excellent for teaching and reinforcing map skills (directionality and symbols) in the primary grades.

SUPPORT MATERIALS Support materials include teacher's manual, student workbook. 1 disk, 1 backup

TYPE OF PROGRAM Simulation, instructional game

SETTING/COURSE

- K.0 Myself and Others in My World
- 1.0 People at Home and at School
- 2.0 People as Members of Groups
- 3.0 People as Members of Communities

OBJECTIVES

- K.1 Finding my way in my world (geography skills) (K.11, K.12, K.15)
- 1.1 Relationship of home to school (geography skills) (1.13, 1.18, 1.19)
- 2.1 Getting around in my neighborhood (geography skills) (2.12, 2.17, 2.110)
- 3.1 My community: where is it? (geography skills) (3.11)

CRITICAL THINKING

•Clarifying Issues

- C.13 Determine which information is relevant
- C.14 Formulate appropriate questions
- C.15 Express problems clearly and concisely

•Judging/Using Information Not Applicable

•Drawing Conclusions

- C.31 Identify reasonable alternatives
- C.32 Predict possible consequences
- C.33 Test conclusions or hypotheses
- C.34 Reason hypothetically

STUDY/BASIC SKILLS

- B.1 Acquire information through listening, observing, reading, and utilizing community resources
- B.4 Extract and interpret information from maps, models, graphs, charts, tables, pictures, and cartoons
- B.5 Communicate orally and in writing

VALUES/BELIEFS V.16 Participation (Involvement)

SOCIAL SKILLS

- S.7 Work effectively with others as members of groups
- S.8 Give and receive constructive criticism

POTENTIAL USE(S) Motivator, Enrichment, Pre- and Post-lesson activity, Supplement, Extend

EASE OF USE No student computer experience required. Some teacher computer experience required. Moderate teacher preparation required (prepare student worksheets).

STUDENT GROUPING Individual, pairs, small groups **EQUIPMENT** Apple II series, color monitor

SUGGESTED TIME 30 minutes **NUMBER OF SESSIONS** 5

COPYRIGHT DATE 1988 **PRICE** \$54.48



Westward Ho!

SOURCE McGraw-Hill

GRADES 4, 5

RATING Exemplary

DESCRIPTION

In this simulation game for westward travel, children make decisions which affect their progress across the country.

EVALUATION

This highly motivational program helps students learn to read maps, learn directions and map symbols, and understand the interaction of geographic and climatic factors.

SUPPORT MATERIALS Support materials include teacher's manual, student's workbook. 1 disk, 1 backup

TYPE OF PROGRAM Simulation

SETTING/COURSE
4.0 The People of a Region: California
5.0 The People of a Nation: The United States of America

OBJECTIVES
4.1 California: Its land and its environment (4.11, 4.14, 4.110, 4.112)
5.11 Recognize distance, direction, scale, map symbols, and the relationship of maps and globes
5.21 Identify the migration patterns of immigrants to the U.S.
5.51 Describe major U.S. historical events in terms of cause and effect

CRITICAL THINKING

- Clarifying Issues
 - C.11 Identify central issues or problems
 - C.12 Identify similarities and differences
 - C.13 Determine which information is relevant
- Judging/Using Information
 - C.25 Recognize simple, unstated assumptions
 - C.26 Recognize clearly insufficient data
- Drawing Conclusions
 - C.31 Identify reasonable alternatives
 - C.32 Predict possible consequences
 - C.34 Reason hypothetically

STUDY/BASIC SKILLS
B.3 Compile, organize, and evaluate information presented in books, periodicals, and other media
B.4 Extract and interpret information from maps, models, graphs, charts, tables, pictures, and cartoons

VALUES/BELIEFS
V.15 Responsibility (Following Through, Efficiency)
V.25 Human rights (Life, Liberty, Self-Esteem, Dignity, Compassion)

SOCIAL SKILLS
S.7 Work effectively with others as members of groups
S.8 Give and receive constructive criticism

POTENTIAL USE(S) Motivator: To interest children in the Westward movement. Enrichment: For those who want to do in-depth study. Supplement: Textbook can be added to by exercise sheets. Extend: Learning of this period - worksheets encourage language arts, etc.

EASE OF USE Some teacher and student computer experience required. Moderate teacher preparation.

STUDENT GROUPING Individual, pairs, groups of 3-5, large groups

EQUIPMENT Apple II series, color monitor desirable

SUGGESTED TIME 40 minutes

NUMBER OF SESSIONS 5

COPYRIGHT DATE 1988

PRICE \$54.48



World of Charles Dickens

SOURCE Centre Productions Inc. **GRADES** 10 **RATING** Exemplary

LENGTH OF PROGRAM 14 minutes **COPYRIGHT** 1986

DESCRIPTION

The program highlights the era in which Charles Dickens lived. It focuses on what life was like at that time and the conditions that influenced Dickens' life and works. It reviews the powerful events of nineteenth century England and considers the universal themes of Dickens' novels.

EVALUATION

This is an excellent introduction to the era in which Dickens lived. It would also be useful in an English class to provide background for Dickens' writings.

SUPPORT MATERIALS: The teacher's guide includes instructional objectives, a program synopsis, and suggested pre- and post-viewing questioning strategies and activities.

SETTING/COURSE 10.0 World History, Culture, and Geography

OBJECTIVES 10.6 The age of the Industrial Revolution (1800 to 1914 A.D.) (10.61, 10.62, 10.63)

CRITICAL THINKING

•**Clarifying Issues** C.11 Identify central issues or problems
C.12 Identify similarities and differences
C.16 Recognize individual and group value orientations and ideologies

•**Judging/Using Information** C.24 Recognize simple inconsistencies and contradictions

•**Drawing Conclusions** C.34 Reason hypothetically
C.36 Recognize indirect or extended implications

STUDY/BASIC SKILLS B.3 Compile, organize, and evaluate information presented in media

SOCIAL SKILLS S.1 Feel for others; empathize with them; be sensitive to their needs, problems, and aspirations; see things as others see them; take the perspectives of others
S.2 Understand multiple perspectives of others

POTENTIAL USE(S) Motivator, enrichment, pre-lesson activity, homework

Technology in the Curriculum Resource Guide: Language Arts – 1988 Update

Computer Software Component

The *English-Language Arts Framework for California Public Schools: Kindergarten Through Grade Twelve* emphasizes a meaningful connection between pieces of literature and writing as a process. This was the primary focus of the current evaluation cycle. The literary works could be used as models for student writing, for prewriting ideas, or in other ways that would connect literature and writing. Programs were scrutinized for all components of the writing process: prewriting, writing, responding, revising, editing, evaluation, and postwriting. Special attention was paid to determining whether the writing could be completed more efficiently on the computer or with pencil and paper.

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San Diego City Unified School District

Recommended Technology

Title	Rating	Page
Explore-A-Story Series	D	29
Muppet Slate	D	32
Write A Story	D	36

Instructional Video Component

Over 250 instructional video programs that became available since the last update were reviewed. The primary focus of this evaluation cycle was to identify programs that totally integrated the elements of language arts – listening, speaking, reading, and writing. Only programs rated as “Exemplary” are included in this section.

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Recommended Technology

Title	Rating	Page
Anne of Green Gables	E	29
Frog and Toad Together	E	30
Fruit at the Bottom of the Bowl	E	30
Gullah Tales	E	31
Harry, the Dirty Dog	E	31
Mouse and the Motorcycle	E	32
Rainbow War	E	33
Reading Rainbow	E	33
Spirit to Spirit: Nikki Giovanni	E	35
Through Grandpa's Eyes	E	36

Recommended Technology



Anne of Green Gables

SOURCE Direct Cinema Limited (for public performance distribution) OR **RATING** Exemplary
Coronet Film and Video

AUDIENCE 8-12 **LENGTH** 192 minutes **COPYRIGHT** 1986

FOCUS Reading: Independent Reading/Mores/Genre (Novel)

DESCRIPTION/MAJOR OBJECTIVE(S)

This program dramatizes Lucy Maud Montgomery's classic novel about a girl who is mistakenly sent by an orphanage to help an elderly bachelor run his farm. Anne Shirley moves from one mishap to the next, her antics bringing her trouble. Megan Follows stars as Anne Shirley. This program focuses on several thematic units listed in the *Model Curriculum Standards: Grades Nine Through Twelve*—"Individuals and the Need for Acceptance," "Passages and Transformations," and "Journey to Personal Fulfillment."

EVALUATION

This production captures the essence of life at the turn of the century, recreating the story's fairytale charm in a series of sunlit pastels. The program's sensitive character development, effective visual development, and compelling musical sound track captivate students.

SUPPORT MATERIALS

The teacher's guide includes a synopsis.

IMPLEMENTATION IDEAS

This program could be used to motivate students to read related selections listed in the "Recommended Readings in Literature" appendix of the *Model Curriculum Standards: Grades Nine Through Twelve*. It can serve as a springboard for oral and written activities.



Explore-A-Story Series

SOURCE D.C. Heath **RATING** Desirable

AUDIENCE 1-6

FOCUS: Reading: Independent Reading; Writing: Connection to Literature; Integration of Language Arts: Word Processing

DESCRIPTION/MAJOR OBJECTIVE(S)

Each of the twelve storybook packages includes five copies of the storybook and two disks which allow students to read a story, rearrange an existing story, or create a new story. Primary selections are: *Bald-Headed Chicken*, *A Brand New View*, *Just Around the Block*, *What Makes a Dinosaur Sore?*, *Where Did My Toothbrush Go?*, and *Rosie, the Counting Rabbit*. Upper elementary selections are: *The Best Bubble Blower*, *The Great Leap*, *Lima Bean Dream*, *Quasar Kids*, *The Sleepy Brown Cow*, and *Not Too Messy, Not Too Neat*.

EVALUATION

The capabilities of changing scenes and adding student text are the strongest components of these programs. Teachers will need to go beyond the literal questions in the teacher's guide and create student directions if the story starter section is used. The graphics can be printed as black and white or color. Space for original text is limited. Additional activities in the teacher's guide suggest many additional applications. The use of a mouse is more efficient than use of the keyboard.

TYPE(S)

Word processing

SUPPORT MATERIALS

5 copies of storybook, Teacher's guide, Two disks in each storybook package

EQUIPMENT

Apple II series, Printer

PRICE

\$75.00 each storybook package

COPYRIGHT

1988

TEACHER PREP TIME

Little

IMPLEMENTATION IDEA(S)

Students can use the computer program as a follow-up to reading the storybook. They can rewrite the story in their own words or extend the story.



Frog and Toad Together

SOURCE	Churchill Films	RATING	Exemplary
AUDIENCE	1-3	LENGTH	17 minutes
FOCUS	Reading: Independent Reading; Writing: Prewriting; Integration of Language Arts: Higher Order Thinking Skills/Variety of Experiences		
DESCRIPTION/MAJOR OBJECTIVE(S)	Four stories come to life through the animation of filmmaker John Matthews. Blustery Toad and patient Frog are portrayed in a series of adventures taken from Arnold Lobel's 1973 Newbery Honor Book. In <i>The Garden</i> Toad learns flowers will grow in their own natural time. <i>Cookies</i> provides Toad with a practical lesson in will power. Other episodes include <i>The Dream</i> and <i>Dragons and Giants</i> . (<i>Frog and Toad Together</i> is listed in the "Modern Fantasy and Science Fiction" category of the "Recreational and Motivational Materials" section of the <i>Recommended Readings in Literature: Kindergarten Through Grade Eight</i> .)		
EVALUATION	The dimensional animation in this production is outstanding. Students find the production fascinating, particularly after they have read the story. The program elicits valuable discussion on patience, on will power, on dealing with fear, and on friendship.		
SUPPORT MATERIALS	The teacher's guide includes a synopsis, objectives, and suggested discussion activities.		
IMPLEMENTATION IDEA(S)	This program could be used as a follow-up to the reading of one of Arnold Lobel's books listed in the <i>Recommended Readings in Literature: Kindergarten Through Grade Eight</i> . Because there are four stories in this program, teachers may wish to show each on different occasions and develop activities around each episode.		



Fruit at the Bottom of the Bowl

(from the *Ray Bradbury* series)

SOURCE	Beacon Films	RATING	Exemplary
AUDIENCE	9-12	LENGTH	26 minutes
FOCUS	Reading: Core Works/Independent Reading/Genre (Short Story); Integration of Language Arts: Listening, Speaking, Reading, Writing – Totally Integrated/Variety of Experiences		
DESCRIPTION/MAJOR OBJECTIVE(S)	This dramatization of Ray Bradbury's short story features a . . . <i>murder itself that went remarkably smoothly</i> . . . William Acton is determined to murder his former friend, Donald. When William arrives at his friend's home, he receives a warm welcome and is startled to discover that Donald is expecting him.		
EVALUATION	This is a well-done dramatization with realistic characterizations. The tone of the production will maintain interest and motivate students to read other stories by Ray Bradbury.		
SUPPORT MATERIALS	A teacher's guide includes a synopsis and pre- and post-viewing discussion strategies.		
IMPLEMENTATION IDEA(S)	This program could be used to motivate students to read other stories by this author listed in the "Recommended Reading for a Core and Extended Reading Program" and the "Anthologies of Shorter Works such as Poems, Essays, Short Stories, Short Plays, and Speeches" sections of the appendix of the <i>Model Curriculum Standards: Grades Nine Through Twelve</i> .		



Gullah Tales

SOURCE	Direct Cinema Limited	RATING	Exemplary
AUDIENCE	4-7	LENGTH	30 minutes
FOCUS	COPYRIGHT 1987 Reading: Independent Reading/Genre (Short Story); Writing: Prewriting; Oral/Aural: Listening/Discussion; Integration of Language Arts: Listening, Speaking, Reading, Writing – Totally Integrated		
DESCRIPTION/MAJOR OBJECTIVE(S)	This program highlights two Southern plantation fables made famous by nineteenth century writings of Joel Chandler Harris. A storyteller introduces the Brer Rabbit stories from the Uncle Remus collection. The stories are dramatized, providing students with a background to the subculture and dialect of the 1830's plantation.		
EVALUATION	The program is well done, one that will motivate students to read the Uncle Remus stories and find out more about life in the South during the first half of the nineteenth century.		
SUPPORT MATERIALS	The teacher's guide includes a synopsis.		
IMPLEMENTATION IDEA(S)	The program could be used as part of a unit on American folklore. The version of the Brer Rabbit stories in the program could be compared with other versions found in print. <i>Brer Rabbit and His Tricks</i> by Ennis Rees is listed in the "Folklore" category of the "Recreational and Motivational Materials" section of the <i>Recommended Readings in Literature: Kindergarten Through Grade Eight</i> .		



Harry, the Dirty Dog

SOURCE	Barr Films	RATING	Exemplary
AUDIENCE	K-3	LENGTH	18 minutes
FOCUS	COPYRIGHT 1988 Reading: Extended Reading; Writing: Prewriting; Integration of Language Arts: Listening, Speaking, Reading, Writing – Totally Integrated/Variety of Experiences		
DESCRIPTION/MAJOR OBJECTIVE(S)	This dramatization of Gene Zion's popular book chronicles the adventures of Harry, a white dog with black spots, who liked everything – except taking a bath. (<i>Harry, the Dirty Dog</i> is an extended reading entry in the "Picture Books" category of the "Core and Extended Materials" section of the <i>Recommended Readings in Literature: Kindergarten Through Grade Eight</i> .)		
EVALUATION	This is a high-quality production, realistic yet humorous. Students will find the program fascinating. They will easily identify with the problem the two children had with Harry.		
SUPPORT MATERIALS	The teacher's guide includes a synopsis and pre- and post-viewing activities.		
IMPLEMENTATION IDEA(S)	This dramatization could be used as a follow-up to the reading of this popular book. Students could be asked to contrast the dramatization with the book. The audio could be turned off to allow students to provide the narrative.		



Mouse and the Motorcycle

SOURCE	Churchill Films	RATING	Exemplary
AUDIENCE	3-5	LENGTH	41 minutes
FOCUS	COPYRIGHT 1986 Reading: Independent Reading; Writing: Prewriting; Integration of Language Arts: Listening, Speaking, Reading, Writing – Totally Integrated		
DESCRIPTION/MAJOR OBJECTIVE(S)	Beverly Cleary's novel is brought to the screen with a blend of live-action photography and dimensional animation. The story chronicles a careless mouse's series of dangerous adventures on a young boy's toy motorcycle. (This book is listed in the "Modern Fantasy and Fiction" category of the "Recreational and Motivational Materials" section of the <i>Recommended Readings in Literature: Kindergarten Through Grade Eight</i> .)		
EVALUATION	This is an outstanding production. The dimensional animation is woven artistically with the live action. Students will be motivated to read other titles by this author.		
SUPPORT MATERIALS	The teacher's guide includes a synopsis, objectives, and discussion activities.		
IMPLEMENTATION IDEA(S)	This program could be used to introduce students to the author Beverly Cleary. (Included in the <i>Recommended Readings in Literature: Kindergarten Through Grade Eight</i> are other titles by this author. <i>Dear Mr. Henshaw</i> and <i>Ramona and Her Father</i> are listed as core works in the "Contemporary Realistic Fiction" category of the "Core and Extended Materials" section. <i>Henry and Beezus</i> and <i>Ramona the Pest</i> are listed in the "Contemporary Realistic Fiction" category of the "Recreational and Motivational Materials" section.)		



Muppet Slate

SOURCE	Sunburst Communications	RATING	Desirable
AUDIENCE	K - 3		
FOCUS:	Writing: Prewriting/Writing (First Draft); Integration of Language Arts: Word Processing		
DESCRIPTION/MAJOR OBJECTIVE(S)	Twenty-four lessons, featuring Muppet characters, provide primary students with writing activities that teach the use of a simple word processor.		
EVALUATION	The prewriting activities in the teacher's guide are very explicit and include many oral activities. The printouts are large primary print. Specific pieces of literature are used to illustrate connections to writing. In many lessons students are asked to "fill in the details" rather than compose an entire piece of writing.		
TYPE(S)	Word processing	SUPPORT MATERIALS	Instruction manual, Instructional objectives, Instructions appear on the screen, Student worksheets, Suggested activities, Teacher's guide
EQUIPMENT	Apple II series, Printer, Muppet Learning Keys (optional)	PRICE	COPYRIGHT
	\$65.00 or Lab pack (10) \$195.00	1988	TEACHER PREP TIME Little
IMPLEMENTATION IDEA(S)	Teachers may select lessons that reinforce or extend pieces of literature and types of writing being used in the classroom. Many lessons can serve as models for teachers to create their own exercises.		



Rainbow War

SOURCE	Pyramid	RATING	Exemplary
AUDIENCE	3-10	LENGTH	20 minutes
FOCUS	Writing: Prewriting/Modes of Writing; Oral/Aural: Discussion/Connection of Writing and Speaking; Integration of Language Arts: Listening, Speaking, Reading, Writing – Totally Integrated/Variety of Experiences		
DESCRIPTION/MAJOR OBJECTIVE(S)	Three kingdoms, one Blue, one Red, and one Yellow, wage a colorful battle. This production – an allegory about tolerance and good will – received a 1985 Academy Award nomination (live-action short film).		
EVALUATION	This exceptional program is a witty, stimulating visual treat. It is of exceedingly high quality in all technical aspects. Because it contains no dialog, it requires students to use considerable imagination.		
SUPPORT MATERIALS	The teacher's guide includes a synopsis.		
IMPLEMENTATION IDEA(S)	This program could serve as a springboard for all types of stimulating classroom activities – making oral presentations, script writing, solving ethnic and social problems, and working on art projects.		



Reading Rainbow (Programs 36-45) (Ten 30-minute programs)

SOURCE	Great Plains National Instructional Television	RATING	Exemplary
AUDIENCE	1 – 3	COPYRIGHT	1987
FOCUS	Reading: Core works/Independent Reading/Reading for a Purpose/Reading Across the Curriculum; Writing: Prewriting; Oral/Aural: Oral Language/Listening; Integration of Language Arts: Listening, Speaking, Reading, Writing – Totally Integrated/Higher Order Thinking Skills/Vocabulary in Context/Variety of Experiences		

Individual Program Descriptions

(Programs 1-20 were included in the original *Technology in the Curriculum: Language Arts Resource Guide* and programs 21-35 were included in the *Technology in the Curriculum: Resource Guide 1987 Update*.)

- #36: ***Life Cycle of the Honeybee***
- | | |
|--------------------|--|
| DESCRIPTION | Barbara Felden is narrator for this book by Paula Z. Hogan. LeVar Burton visits a real-life beekeeper and describes how honey is extracted. |
| FOCUS | Reading: Reading for a Purpose/Reading Across the Curriculum; Writing: Prewriting; Oral/Aural: Oral Language/Listening; Integration of Language Arts: Vocabulary in Context/Variety of Experiences |
- #37: ***Keep the Lights Burning, Abbie***
- | | |
|--------------------|---|
| DESCRIPTION | This episode features Peter and Connie Roop's true story of a brave young girl who kept her lighthouse burning during a tremendous storm. LeVar Burton visits a Maine lighthouse and spends a day on a schooner at sea. |
| FOCUS | Reading: Independent Reading; Writing: Prewriting; Integration of Language Arts: Vocabulary in Context/Variety of Experiences |

Reading Rainbow

Individual Program Descriptions (continued)

#38 Chickens Aren't the Only Ones

- DESCRIPTION** Ruth Heller's book inspires LeVar Burton to search for an answer to the age-old question – Which came first, the chicken or the egg? LeVar visits a chicken ranch and a loggerhead turtle hatchery.
- FOCUS** **Reading:** Reading for a Purpose; **Writing:** Prewriting; **Oral/Aural:** Oral Language/Listening; **Integration of Language Arts:** Higher Order Thinking Skills/Vocabulary in Context/Variety of Experiences

#39 Paper Crane

- DESCRIPTION** This book by Molly Bang describes the magical gift a stranger gave to a generous restaurant owner. LeVar Burton celebrates Japanese culture, exploring the ancient art of origami. (Molly Bang's book *Ten, Nine, Eight* is listed as an extended reading title in the "Picture Books" category of the "Core and Extended Materials" section of the *Recommended Readings in Literature: Kindergarten Through Grade Eight*.)
- FOCUS** **Reading:** Independent Reading; **Integration of Language Arts:** Listening, Speaking, Reading, Writing – Totally Integrated/Variety of Experiences

#40 Runaway Duck

- DESCRIPTION** David Lyon's book chronicles a carved wooden duck's around-the-world adventures. LeVar Burton visits Chesapeake Bay to learn about waterfowl.
- FOCUS** **Reading:** Independent Reading/Reading for a Purpose; **Writing:** Prewriting; **Integration of Language Arts:** Listening, Speaking, Reading, Writing – Totally Integrated

#41 Three Hat Day

- DESCRIPTION** Author Laura Geringer and illustrator Arnold Lobel inspire LeVar Burton "to go anywhere" just by changing hats. With the snap of a finger, he visits a racetrack and a professional hockey team.
- FOCUS** **Reading:** Independent Reading; **Writing:** Prewriting; **Integration of Language Arts:** Listening, Speaking, Reading, Writing – Totally Integrated/Variety of Experiences

#42 Rumpelstiltskin

- DESCRIPTION** This classic fairy tale, retold and illustrated by Paul O. Zelinsky, comes to life when LeVar Burton visits a Renaissance festival in California. (Margery Evernden's version of *Rumpelstiltskin* is listed in the "Plays (Kindergarten Through Grade Six)" category of the "Core and Extended Materials" section of the *Recommended Readings in Literature: Kindergarten Through Grade Eight*.)
- FOCUS** **Reading:** Independent Reading; **Oral/Aural:** Oral Language/Listening; **Integration of Language Arts:** Variety of Experiences

#43: Best Friends

- DESCRIPTION** In this book by Steven Kellogg, two best friends learn how to share a newborn puppy. LeVar Burton meets eight golden retriever puppies and learns how special dogs are trained to act as eyes for the blind. (This program could be used to introduce students to Steven Kellogg. Three of his books – *Island of Skog*, *Pinkerton Behave!*, and *The Mysterious Tadpole* – are listed in the *Recommended Readings in Literature: Kindergarten Through Grade Eight*.)
- FOCUS** **Reading:** Reading for a Purpose; **Writing:** Prewriting; **Integration of Language Arts:** Listening, Speaking, Reading, Writing – Totally Integrated/Variety of Experiences

Reading Rainbow

Individual Program Descriptions (continued)

#44 *Meanwhile, Back at the Ranch*

- DESCRIPTION** In Trinka Hakes Noble's book, a rancher drives to Sleepy Gulch and misses a very eventful, surprised-filled day back home. LeVar Burton rides a stagecoach and tastes the life of a cowboy. (This program could be used to introduce students to Trinka Noble's book, *The Day Jimmy's Boa Ate the Wash*, which is listed in the "Modern Fantasy and Science Fiction" category of the "Recreational and Motivational Materials" section of the *Recommended Readings in Literature: Kindergarten Through Grade Eight*.)
- FOCUS** **Reading:** Independent Reading; **Writing:** Prewriting; **Oral/Aural:** Oral Language/Listening; **Integration of Language Arts:** Listening, Speaking, Reading, Writing – Totally Integrated/Variety of Experiences

#45 *My Little Island*

- DESCRIPTION** This episode highlights Frané Lessac's book about a little boy who takes his best friend to visit the Caribbean island where he was born. LeVar Burton visits the same island, Montserrat, experiencing the color and sights of this tropical paradise.
- FOCUS** **Reading:** Reading for a Purpose; **Integration of Language Arts:** Vocabulary in Context/Variety of Experiences



Spirit to Spirit: Nikki Giovanni

- SOURCE** Direct Cinema Limited
- AUDIENCE** 9-12
- LENGTH** 30 minutes
- RATING** Exemplary
- COPYRIGHT** 1987
- FOCUS** **Reading:** Independent Reading/Genre (Poetry); **Writing:** Prewriting/Modes of Writing (Poetry); **Oral/Aural Language:** Oral/Discussion; **Integration of Language Arts:** Listening, Speaking, Reading, Writing – Totally Integrated/Variety of Experiences
- DESCRIPTION/MAJOR OBJECTIVE(S)**
This program details the poetry of Nikki Giovanni. Her coming of age is juxtaposed with the background of her times – Civil Rights struggle, Vietnam, the Women's Movement. This black poet's works present a mosaic of themes related to art, race, sex, and humanity.
- EVALUATION**
The use of Nikki's performance footage, interview material, archival footage (Martin Luther King, Jr. and the Civil Rights protests of the 1960s), stills, visual imagery, and original musical score create an unusually effective program. Nikki's on-stage reading of her poetry is well done. Her contribution to American culture serves as an excellent role model for all students.
- SUPPORT MATERIALS**
The teacher's guide includes a synopsis.
- IMPLEMENTATION IDEA(S)**
This program would serve as an introduction to contemporary poetry. The poems which are highlighted could be used as models for students.



Through Grandpa's Eyes

SOURCE	Barr Films	RATING	Exemplary
AUDIENCE	1-5	LENGTH	20 minutes
FOCUS	Reading: Independent Reading; Writing: Prewriting; Integration of Language Arts: Listening, Speaking, Reading, Writing – Totally Integrated		
DESCRIPTION/MAJOR OBJECTIVE(S)	This program is about being blind and about learning to see the world through someone else's eyes. This tale, based on the book by Patricia MacLachlan, chronicles how a young boy learns to see his world. When Johnny visits his grandparents, he is amazed by how much his blind grandfather knows. Being blind, Grandpa admits, can be frustrating – his deepest regret is not being able to watch his grandson grow.		
EVALUATION	This is a sensitive dramatization – one that highlights the loving relationship between a grandfather and grandchild.		
SUPPORT MATERIALS	The teacher's guide includes a program synopsis.		
IMPLEMENTATION IDEA(S)	This program would be a motivator for students to read other works by Patricia MacLachlan. Two of her books are listed in the "Core and Extended Materials" section of the <i>Recommended Readings in Literature: Kindergarten Through Grade Eight</i> – <i>Arthur, for the Very First Time</i> (a core work in the "Contemporary Realistic Fiction" category) and <i>Sarah, Plain and Tall</i> (a core work in the "Historical Fiction" category).		



Write A Story

SOURCE	Sunburst Communications	RATING	Desirable
AUDIENCE	5 – 7		
FOCUS:	Writing: Prewriting/Writing (First Draft)/Revising/Editing/Modes of Writing (Story); Integration of Language Arts: Word Processing		
DESCRIPTION/MAJOR OBJECTIVE(S)	Twenty-two lessons provide opportunities for students to write in various domains while creating a science fiction story.		
EVALUATION	The prewriting activities are very detailed for teachers. Students develop an understanding that the computer is a tool for writing, and many activities are completed away from the computer before students begin to write. Revision and editing criteria are given, but there are no guidelines for responding to first drafts. Students are often asked to complete partially created text rather than to produce the entire piece.		
TYPE(S)	Word processing	SUPPORT MATERIALS	Instruction manual, Instructional objectives, Instructions appear on the screen, Student worksheets, Suggested activities, Teacher's guide, Two disks
EQUIPMENT	Apple II series, Printer	PRICE	\$59.00
		COPYRIGHT	1988
		TEACHER PREP TIME	Little
IMPLEMENTATION IDEA(S)	This program can be an ongoing independent writing project for the school year.		

Technology in the Curriculum Resource Guide: Mathematics – 1988 Update

Computer Software Component

The mathematics software included in this guide was selected according to criteria established for the 1986 *Technology in the Curriculum: Mathematics Resource Guide* and the 1987 *Update*. These criteria were developed to identify "desirable" or "exemplary" computer software that provides learning experiences consistent with the philosophy of the *Mathematics Framework for California Public Schools: Kindergarten Through Grade Twelve*. The criteria are as follows:

- Educational software provides effective learning experiences that motivate *all* students and leads to a deep understanding of the concepts being taught;
- Technology helps students to develop mathematical power in all the strands of mathematics by providing environments where students actively construct ideas for themselves and create and test their own strategies;
- Technology provides students with new or extended situations that relate to their own experiences and that are difficult or impossible to present with traditional instructional materials;
- Software that provides for practice of skills isolated from an application should be carefully considered for its effectiveness in achieving mathematical power for students; and
- Computer software promotes the fact that mathematics can be exciting and fun!

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Recommended Technology

Title	Rating	Page
Adventures with Charts and Graphs: Project Zoo	E	38
Algebra Shop	D	39
Algebraic Proposer	D	39
Calculus	D	40
Fraction Munchers	D	40
Geometry One: Foundations	D	41
How The West Was One + Three x Four	D	41
Pathfinder	D	42
Plane View	D	42

Instructional Video Component

Over 60 instructional video programs in mathematics were reviewed according to the criteria established for the original mathematics resource guide and 1987 Update. Evaluators did not recommend any programs for inclusion in this 1988 Update.

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Recommended Technology

No programs selected

Recommended Technology



Adventures with Charts and Graphs: Project Zoo

SOURCE: National Geographic Society

RATING: Exemplary

GRADE: 3-6

COPYRIGHT: 1987

STRAND: Statistics and Probability, Logic, Measurement

DESCRIPTION/OBJECTIVES:

In "Zoo Goer" students walk through five animal houses in an imaginary zoo. They make observations about the animals, their quantity, habits, and attributes; these data are represented in picture graphs, bar graphs, and in tables. In "Zoo Collector" students reinforce and expand graphing skills while trying to identify mystery animals from clues and by interpreting graphs. In "Zoo Builder" students design animal habitats that meet the needs of animals, visitors, and staff.

EVALUATION:

Examples of how information can be converted into a variety of graphical representations are thorough and clear. Students develop an understanding of concepts that transfers to new situations. The support materials are excellent and present a multimedia math and science learning experience. In "Zoo Builder" students are challenged to solve problems and make decisions; at any time, they can consult the computer for evaluations or request hints to improve their design.

TYPE: Problem solving, simulation, practice

EQUIPMENT:

SUPPORT MATERIALS:

3 disks, teacher's guide, activity sheets, student booklets, filmstrip and audiocassette, support hotline

Apple II series; color monitor, printer
desirable, joystick (optional)

TEACHER PREP TIME: Average

GROUPING:

Pairs, small groups

MINIMUM LEARNER TIME:

Multiple long sessions

PRICE:

\$139.50



Algebra Shop

SOURCE: Scholastic, Inc.

GRADE: 5-8

STRAND: Algebra

DESCRIPTION/OBJECTIVES:

In a simulated "Algebra Shop Mall," students act as shop assistants, doing the math necessary to fill customers' requests. Ten shops are displayed on three floors, each shop having unique graphics and each successive floor requiring more advanced math skill – from factoring, decimals, and fractions to simultaneous equations and nested functions. Students may choose to play the "One Shop Game" or the "All Shops Game," with or without a time clock.

EVALUATION:

This is reminiscent of *Math Shop*. Creative problem-solving situations motivate students in this arcade-like setting. Easy-to-use recordkeeping system allows teachers to limit the number of shops open in order to focus on specific areas of algebra. As students serve customers successfully, the difficulty level of the problem posed rises. Program allows students to modify answers before making them final. Upper elementary and junior high students can benefit from exposure to the variety of concepts presented.

TYPE: Problem solving, simulation

SUPPORT MATERIALS:

One disk, backup, teacher's manual, worksheets and activities

TEACHER PREP TIME: Average

MINIMUM LEARNER TIME:

Multiple short sessions

RATING: Desirable

COPYRIGHT: 1987

COURSE: Math A, Math B, Algebra I

EQUIPMENT:

Apple II series; IBM PC with color graphics card, PCjr, Tandy 1000, 256K

GROUPING:

Pairs

PRICE:

\$69.95



Algebraic Proposer

SOURCE: True BASIC, Inc.

GRADE: 8-12

STRAND: Algebra

DESCRIPTION/OBJECTIVES:

Students build algebraic models to solve a variety of problems ranging in sophistication from basic arithmetic to more complicated functions containing one variable. Quantities are entered with their units, which label all computations; students can write notes to describe quantities. Students generate functions; a "Plan" option maps their work. They compare functions with $=$, $<$, or $>$; check the reasonableness of their models by solving for roots; and investigate graphs in the "Plot" option. Students who need help can select "Guide" to receive hints.

EVALUATION:

A clean and flexible workspace helps students propose and evaluate solutions to application problems from the disciplines of science, economics, and engineering or word problems from the textbook. The power of the program is that it helps students learn how to build models in a variety of representations: algebraic, schematic, and graphic. Although complex, the program is made manageable by minimizing the number of commands available. The "Plan" and "Guide" options stimulate student reasoning. The interactive graphing modes develop deep understanding of the relationship of values in functions and enhance the understanding of the model.

TYPE: Problem solving, tutorial, demonstration

SUPPORT MATERIALS:

One disk, teacher's manual, selected problems

TEACHER PREP TIME: Extensive

MINIMUM LEARNER TIME:

Multiple long sessions

RATING: Desirable

COPYRIGHT: 1987

COURSE: Algebra I & 2, Math A, Math B

EQUIPMENT:

IBM PC, 256K, graphics adapter; Macintosh 512K

GROUPING:

Individuals, pairs, small groups, whole class

PRICE:

\$99.00 (discount available to educators)



Calculus

SOURCE: Broderbund by Sensei

GRADE: 11-12

STRAND: --

DESCRIPTION/OBJECTIVES:

The presentation of this interactive tutorial corresponds with beginning calculus texts and covers most of the material in an Advanced Placement Calculus AB course. Students may access each chapter or choose more specific topics from an alphabetical index. Students may study from a tutorial, work problems, or do both.

EVALUATION:

From any point of entry, students may easily use pull-down menus to select the tutorial options, get help, or print a page. There are many good, short demonstrations of specific concepts. Animated graphs that reflect changes in a function help to develop an understanding of concepts. The "Advanced Graphing" chapter lets students "sketch" a selected function on the screen and then superimpose the computer-drawn curve to check their plot.

TYPE: Problem solving, tutorial, practice

SUPPORT MATERIALS:

One disk, backup, teacher's guide

TEACHER PREP TIME: Little

MINIMUM LEARNER TIME:

Multiple short or long sessions

RATING: Desirable

COPYRIGHT: 1987

COURSE: Math Analysis, Calculus

EQUIPMENT:

Macintosh 512K, external drive or 800K internal drive

GROUPING:

Individuals, pairs, small groups, whole class

PRICE:

\$109.95; Lab pack (5) \$219.95



Fraction Munchers

SOURCE: MECC

GRADE: 4-7

STRAND: Number

DESCRIPTION/OBJECTIVES:

In an arcade-like format, students choose from four games – Fraction Types, Equivalent Fractions, Comparing Fractions, and Fraction Expressions – in which they direct the Fraction Muncher to eat numbers that satisfy given criteria. Levels become progressively more difficult, with a variety of Troggles appearing to thwart the Fraction Muncher's efforts. The program is straightforward and easy to use.

EVALUATION:

Reminiscent of *Number Munchers*, the program provides an extremely motivating format for practice in identifying and comparing fractions. The graphics are particularly pleasing and invite play. Clear instructions are provided to the students. An easy-to-use management system allows the teacher to determine specifically which games are available and which parameters are to be used.

TYPE: Educational game, drill and practice

SUPPORT MATERIALS:

One disk, backup, teacher's manual
with explicit descriptions of programs

TEACHER PREP TIME: Little

MINIMUM LEARNER TIME:

Multiple short sessions

RATING: Desirable

COPYRIGHT: 1987

EQUIPMENT:

Apple II series, 128K; color monitor desirable;
keyboard or joystick

GROUPING:

Pairs

PRICE:

\$55.00



Geometry One: Foundations

SOURCE: IBM Educational Systems

GRADE: 7-12

STRAND: Geometry

DESCRIPTION/OBJECTIVES:

Students choose from two major units, "Building Concepts" or "Building Geometry Systems." Unit 1 is an interactive tutorial on geometric forms in plane geometry such as point, line, plane, parallel, perpendicular, polygon, and circle. It concludes with congruence and similarity. Unit 2 introduces formal logic to develop understanding of geometry as a system. Students can access "GeoDraw" at any time to explore geometric concepts by creating figures in three microsystems: Transformations, Construct, V-Draw (vectors).

EVALUATION:

Clearly written on-screen instructions simplify the use of the menu system and special keys in this complex program; the linked menus permit entry at any point. Well-designed screens and color invite exploration and discovery. "GeoDraw" provides an environment for students to draw and manipulate figures to develop understanding of concepts being studied. A student management system is provided.

TYPE: Tutorial, problem solving, practice

SUPPORT MATERIALS:

Two disks, teacher's guide, keyboard guide, student guide

TEACHER PREP TIME: Average

MINIMUM LEARNER TIME:

Multiple short sessions

RATING: Desirable

COPYRIGHT: 1987

COURSE: Geometry, Math A, Math B, Math C

EQUIPMENT:

IBM PC, IBM PC/jr, 128K; color required

GROUPING:

Individuals, pairs, small groups, whole class

PRICE:

\$156.00; Lab pack (12) \$780.00



How The West Was One + Three x Four

SOURCE: Sunburst Communications

GRADE: 5-12

STRAND: Algebra, Number

DESCRIPTION/OBJECTIVES:

Reminiscent of the board game *Chutes and Ladders*, this program provides practice in order of operations as students try to land exactly on the number 50. For each turn, three spinners randomly provide the numbers which students must combine with symbols ($\times$, $+$, $-$, $\div$, $=$, and parentheses) to determine the number of spaces to move. The program provides opportunities for students to analyze a problem, consider alternatives, and select a best move.

EVALUATION:

This program encourages students to discuss possibilities and make decisions in a mathematical setting. Play options provide for a range of skill levels for students and the computer, as well as the option of having the computer analyze each team's move in terms of strategy. At the end of the game, the program reviews how well the students played. Students may play at a variety of levels; they may be matched against the computer or other students. Instructions are clear, and support materials are easy to use.

TYPE: Problem solving, educational game, practice

SUPPORT MATERIALS:

One disk, backup, teacher's manual, worksheets, transparencies

TEACHER PREP TIME: Average

MINIMUM LEARNER TIME:

Multiple short sessions

RATING: Desirable

COPYRIGHT: 1987

COURSE: Algebra 1, Math A, Math B, Math C

EQUIPMENT:

Apple II series; color monitor desirable

GROUPING:

Individuals, pairs, small groups

PRICE:

\$65.00; lab pack (10) \$195.00



Pathfinder

SOURCE: Sunburst Communications

GRADE: 7-12

STRAND: Logic, Patterns and Functions

DESCRIPTION/OBJECTIVES:

In "Create a Course" students use the keyboard to insert tokens into a rectangular grid. The tokens change the direction, size, and speed of a ball that moves on the invisible path. Three graphs chart the course of the moving ball. In "Match a Graph" students insert tokens to make the ball's movement match a given set of graphs. The program requires students to understand and interpret interactive graphs in order to identify the invisible path.

EVALUATION:

The program provides a variety of difficulty levels. It encourages students to work together, apply their logic skills, and discuss strategies when working with some of the more complex graphs. Good suggestions for classroom use are included in the teacher's manual. Before going to the computer, students benefit from a graphing activity that incorporates a simple path and manipulatives.

TYPE: Problem solving

SUPPORT MATERIALS:

One disk, backup; teacher's manual, worksheets

TEACHER PREP TIME: Average/extensive

MINIMUM LEARNER TIME:

Multiple long sessions

RATING: Desirable

COPYRIGHT: 1988

COURSE: Math A, Math B

EQUIPMENT:

Apple II series; IBM PC and PC/jr;
color monitor desirable

GROUPING:

Pairs, small groups

PRICE:

\$65.00; lab pack (10) \$195.00



Plane View

SOURCE: Sunburst Communications

GRADE: 4-12

STRAND: Geometry

DESCRIPTION/OBJECTIVES:

An animated green block traces a geometric pattern on a table top. In "Learning About Paths" students can select a simple or complex pattern and watch the block's motion from two points of view, from the top and from the side. "Find Mystery Paths" challenges students to identify the shape of a path by watching a side view only. They analyze clues such as the block's speed, direction, color, and duration of motion to make their predictions. Four levels of difficulty are offered: good, excellent, outstanding, and fantastic.

EVALUATION:

This highly motivating program helps students develop spatial thinking. Visualizing objects in motion from more than one point of view is a key to problem solving in geometry and most sciences. Most students who are at first unsuccessful in "Find Mystery Paths" are eager to try again. The teacher's guide offers suggestions for classroom use that include activities for students to do before they use the computer.

TYPE: Problem solving, simulation, demonstration

SUPPORT MATERIALS:

One disk, backup, teacher's guide, hotline available

TEACHER PREP TIME: Little

MINIMUM LEARNER TIME:

Multiple short sessions

RATING: Desirable

COPYRIGHT: 1988

COURSE: Geometry, Math A, Math B

EQUIPMENT:

Apple II series; C64; color monitor required

GROUPING:

Individuals, pairs, small groups, whole class

PRICE:

\$65.00; lab pack (10) \$195.00

Technology in the Curriculum Resource Guide: Science – 1988 Update

Computer Software Component

The primary focus of this series of evaluations was the identification of high-quality software to fit the general kindergarten through eighth grade science curriculum, since that seemed to be the area of greatest need. Programs appropriate to a broad range of grade levels were also considered. The criteria for software selection outlined in the earlier guides were followed throughout this evaluation process.

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Recommended Technology

Title	Rating	Page
Adventures with Charts and Graphs: Project Zoo	E	46
Explore-A-Science Series	D	52
GeoWorld: A Living Database	E	52
Light Lab	D	53
Plant Growth Simulator: Elementary Version	D	54
Playing With Science: Temperature	D	55
Sound: A Microcomputer-Based Lab	E	56
That's Life: Field Ecology Simulation	D	57
Weather and Climate Lab	D	57

Instructional Video Component

Over 400 instructional video programs that became available since the last update were reviewed. The programs were aligned with the curriculum matrix published in the original resource guide and 1987 *Update*. With the exception of one program, only programs rated as "Exemplary" are included in this section of the 1988 *Update*.

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Recommended Technology

Title	Rating	Page
AIDS: Answers for Young People	E	46
Animal Families	E	50
Animated Atlas of the World	E	47
Best of Sesame Street: Parts of the Body - All About You	E	51
Creepy Crawlers: Legless Locomotion	E	50
If You Could See the Earth	E	53
Photosynthesis	D	54
Return of the Sea Otter	E	55
Solar System: A First Film	E	56
Wonder World of Science	E	58

Recommended Technology



Adventures with Charts and Graphs: Project Zoo

SOURCE:	National Geographic Society	GRADES:	3 - 6	RATING:	Exemplary
STRAND:	Animals	COPYRIGHT:	1987		
PROCESS:	Comparing, Organizing, Inferring				
CONTENT OBJECTIVES:	Vertebrates and invertebrates, Animal adaptations, Classifying animals, Care for animals				
DESCRIPTION:	A sequenced multimedia presentation designed to develop skills in graphing, measurement, map making, and research and to provide a better understanding of the characteristics and survival needs of animals. The presentation is built around a zoo theme. The user begins as a visitor to the zoo and finishes by designing zoos. In "Zoo Goer" the user visits several houses in a zoo, collects information about animals, and learns how to represent the data graphically. The "Zoo Collector" has the user identifying mystery animals by interpreting data from charts and tables. In "Zoo Builder" the user is guided in developing a zoo to meet the needs of the animals, visitors, and staff.				
EVALUATION:	The zoo theme presents the interpretation of data from charts and graphs in a highly motivational format and involves students in a variety of problem-solving activities. The support materials allow immediate implementation of the program.				
SUGGESTED USE:	Motivate, introduce, instruct, enrich, apply. Use the filmstrip and books prior to a zoo trip, do some of the additional activities beforehand. Small groups lead to more interaction.				
TYPE:	demo, game, problem solving, simulation	GROUPING:	2, 3 - 4, class		
TEACHER PREPARATION:	some; equipment set-up, explain, planning	TIME:	20 minutes, many sessions		
SUPPORT MATERIALS:	3 disks, backups, teacher's guide, filmstrip, audiocassette, tests, worksheets, student booklets	EQUIPMENT:	Apple II series; printer, color, joystick (optional)		
OTHER SUBJECTS:	Mathematics: graphing	PRICE:	\$139.00		
MANAGEMENT:	save data				



AIDS: Answers for Young People

SOURCE:	Churchill Films	RATING:	Exemplary
GRADES:	6 - 8	COPYRIGHT:	1987
STRAND:	Human Beings		
PROCESS:	Observing, Data gathering, Communicating, Organizing, Relating, Applying		
CONTENT OBJECTIVES:	Body systems, Health maintenance, Conception and sexual responsibility, Diseases and environmental hazards		
DESCRIPTION:	A health educator, a doctor, a twelve-year-old boy who is a carrier of AIDS, and a number of AIDS patients provide a description of the consequences of AIDS. Animation explains how the virus attacks the immune system. A segment explains how a virus is transmitted. The program urges young people not to experiment with sex.		
EVALUATION:	Over seventy-five health officials and educators throughout California have reviewed this program. This informative program makes good use of three high school peer counselors who answer questions in a seventh grade class.		
SUPPORT MATERIAL:	The teacher's guide includes a synopsis, objectives, and discussion strategies.		
SUGGESTED USE:	Introduce, review, motivate, homework		
OTHER SUBJECTS:	Health, Social Issues, Guidance, Sex Education	LENGTH:	18 minutes



Animal Families (Twenty 11-minute programs)

SOURCE: Barr Films

RATING: Exemplary

GRADES: 1-4

COPYRIGHT: 1986

SERIES DESCRIPTION:

The series portrays different kinds of animal life. Each program endeavors to introduce students to the basic anatomy and life cycle of the featured animal.

SERIES EVALUATION:

The outstanding photography, the appropriately woven musical background or the sounds of nature, and the concise narrative create a series that will invoke in students a sense of wonder and curiosity about their natural world.

SUGGESTED USE:

Motivate, introduce, enrich, homework

SUPPORT MATERIALS:

The teacher's guide for each program includes learning objectives, a synopsis, and pre- and post-viewing questioning strategies. A series bibliography is available from the producer.

OTHER SUBJECTS: Language Arts

INDIVIDUAL PROGRAM DESCRIPTIONS:

(Only programs which received "Exemplary" ratings are included in this update.)

#1 Praying Mantis

PROCESS: *Observing, Comparing, Communicating,
Organizing, Inferring*

STRAND: Animal

CONTENT OBJECTIVES:

Where animals live, Animal birth and hatching, Animal movement, Vertebrates and invertebrates, Arthropod life cycle

DESCRIPTION:

This episode describes the life cycle of this insect, which is named for the unique way it stands.

#2 Monkey

PROCESS: *Observing, Comparing, Communicating,
Organizing, Inferring*

STRAND: Animal

CONTENT OBJECTIVES:

Where animals live, Animals' needs, Animal movement, Care of young: warm-blooded

DESCRIPTION:

The program includes segments on the feeding habits and natural habitats of monkeys.

#4 Pig

PROCESS: *Observing, Comparing, Communicating,
Organizing, Inferring*

STRAND: Animal

CONTENT OBJECTIVES:

Where animals live, Animals' needs, Animal movement, Care of young: warm-blooded

DESCRIPTION:

This episode highlights piglets feeding, frolicking, and nuzzling each other with their snouts.

Where animals live, Animals' needs, Animal birth and hatching, Animal movement, Care of young: warm-blooded

#5 Cicada

PROCESS: *Observing, Comparing, Communicating,
Organizing, Inferring*

STRAND: Animal

CONTENT OBJECTIVES:

Where animals live, Animal birth and hatching, Animal reproduction, Animal movement, Arthropod life cycle

DESCRIPTION:

One segment explains the antisocial behavior of cicadas, while another notes that the cicada often lives for years.

Animal Families (continued)

- | | | | |
|------------|--|---|--|
| #6 | Ladybird Beetle | PROCESS: <i>Observing, Comparing, Communicating,
Organizing, Inferring</i> | |
| | STRAND: Animal
CONTENT OBJECTIVES:
Where animals live, Animal birth and hatching, Animal movement, Arthropod life cycle
DESCRIPTION:
A segment shows a ladybug laying her tiny eggs. The program describes the "grubs" leaving the eggs, the pupa stage, and final morphosis. | | |
| #11 | Cattle | PROCESS: <i>Observing, Comparing, Communicating,
Organizing, Inferring</i> | |
| | STRAND: Animal
CONTENT OBJECTIVES:
Where animals live, Animals' needs, Animal birth and hatching, Animal movement, Care of young: warm-blooded
DESCRIPTION:
A portion of the program details the four-stomach digestion system of the cow. | | |
| #12 | Chicken | PROCESS: <i>Observing, Comparing, Communicating,
Organizing, Inferring</i> | |
| | STRAND: Animal
CONTENT OBJECTIVES:
Where animals live, Animals' needs, Animal birth and hatching, Animal movement, Care of young: warm-blooded
DESCRIPTION:
This program explains the basic life cycle of the chicken. | | |
| #13 | Frog | PROCESS: <i>Observing, Comparing, Communicating,
Organizing, Inferring</i> | |
| | STRAND: Animal
CONTENT OBJECTIVES:
Where animals live, Animals' needs, Animal birth and hatching, Animal reproduction, Animal movement, Classifying animals
DESCRIPTION:
This program describes why frogs are referred to as amphibians and how frogs are able to produce their croaking sounds, their call during mating season. | | |
| #14 | Wasp | PROCESS: <i>Observing, Comparing, Communicating,
Organizing, Inferring</i> | |
| | STRAND: Animal
CONTENT OBJECTIVES:
Where animals live, Animals' needs, Animal birth and hatching, Animal movement, Arthropod life cycle
DESCRIPTION:
The program highlights how worker wasps build their hives, tend to the colony's nursery, and protect the hive. | | |
| #15 | Horse | PROCESS: <i>Observing, Comparing, Communicating,
Organizing, Inferring</i> | |
| | STRAND: Animal
CONTENT OBJECTIVES:
Where animals live, Animals' needs, Animal birth and hatching, Animal movement, Care of young: warm-blooded
DESCRIPTION:
The program notes that newborn horses are called foals until January 1 following their birth, when they are referred to as yearlings. | | |

Animal Families (continued)

- #16 *Swallowtail Butterfly* **PROCESS:** *Observing, Comparing, Communicating, Organizing, Inferring*
- STRAND:** Animal
CONTENT OBJECTIVES:
Where animals live, Animals' needs, Animal birth and hatching, Animal reproduction, Arthropod life cycle
DESCRIPTION:
This program notes that an adult female swallowtail butterfly has coarse colorful scales which give off a scent for attracting a male.
- #17 *Firefly* **PROCESS:** *Observing, Comparing, Communicating, Organizing, Inferring*
- STRAND:** Animal
CONTENT OBJECTIVES:
Where animals live, Animals' needs, Animal birth and hatching, Arthropod life cycle
DESCRIPTION:
This program explains the amazing phenomenon of the firefly's tale.
- #18 *Swallow* **PROCESS:** *Observing, Comparing, Communicating, Organizing, Inferring*
- STRAND:** Animal
CONTENT OBJECTIVES:
Where animals live, Animals' needs, Animal birth and hatching, Animal movement, Care of young: warm-blooded
DESCRIPTION:
The program includes segments showing adult sparrows preparing their young for the days they will take their first flight.
- #19 *Dragonfly* **PROCESS:** *Observing, Comparing, Communicating, Organizing, Inferring*
- STRAND:** Animal
CONTENT OBJECTIVES:
Where animals live, Animal birth and hatching, Animal movement, Arthropod life cycle
DESCRIPTION:
This segment notes that dragonflies are excellent flyers, moving through the air as fast as 60 miles per hour.
- #20 *Turtle* **PROCESS:** *Observing, Comparing, Communicating, Organizing, Inferring*
- STRAND:** Animal
CONTENT OBJECTIVES:
Where animals live, Animal birth and hatching, Animal movement
DESCRIPTION:
This program shows a female sea turtle's perseverance in creating her nest for laying her eggs.



Animated Atlas of the World

SOURCE: Walt Disney Educational Media **RATING:** Exemplary

GRADES: 4 - 9

COPYRIGHT: 1986

STRAND: Geology, Meteorology, Oceanography

PROCESS: Data gathering, Observing, Comparing, Relating

CONTENT OBJECTIVES:

Causes of wind, Water cycle, Plate tectonics, Waves and currents, Weather

DESCRIPTION:

An animated atlas demonstrates how our entire planet is still being molded by the same forces that originally shaped the earth. The program reviews the hydrologic cycle and the role of the ocean as the "global thermostat." One segment describes how the shifting of the earth's crustal plates formed the earth's surface.

EVALUATION:

The blend of animation, live action, music, and, at times, humorous narrative produce a notable short feature offering students data regarding the formation of the earth. Its somewhat simplistic presentation makes it an ideal tool for motivating reluctant junior high learners.

SUPPORT MATERIAL:

The teacher's guide includes instructional objectives, a program synopsis, and suggested pre- and post-viewing questioning strategies and activities.

SUGGESTED USE:

Motivate, introduce

OTHER SUBJECTS: Geography

LENGTH: 7 minutes



Creepy Crawlers: Legless Locomotion

SOURCE: Coronet Film and Video **RATING:** Exemplary

GRADES: 5 - 9

COPYRIGHT: 1986

STRAND: Technology/Genetics/Animals

PROCESS: Observing, Communicating, Comparing, Organizing, Relating, Inferring

CONTENT OBJECTIVES:

Scientific method, Adaptations, Species/variations within species, Vertebrates and invertebrates, Animal adaptations/Classification systems

DESCRIPTION:

This program examines the variety of ways living things move, particularly those lacking familiar legs and feet or fins or wings. This "tour de locomotion" documents those creatures who get around by creeping, crawling, slithering, looping, flowing, or rowing. This program highlights the legless locomotion of flatworms, earthworms, snails, leeches, and caterpillars and the serpentine and rectilinear locomotion of snakes.

EVALUATION: This is a no-nonsense production - one that introduces the subject and sticks to the objectives.

SUGGESTED USE:

Introduce, supplement, enrich, homework

SUPPORT MATERIALS:

The teacher's guide includes a synopsis, learning objectives, and pre- and post-viewing activities.

LENGTH: 11 minutes



Best of Sesame Street: Parts of the Body –

All About You (Four 6-minute to 8-minute programs)

SOURCE: Guidance Associates/Lucerne Media

RATING: Exemplary

GRADES: K – 2

COPYRIGHT: 1986

SERIES DESCRIPTION:

This series, produced in cooperation with Children's Television Workshop, combines animation, live action, and songs and skits by the Muppets to introduce students to parts of the body and their functions.

SERIES EVALUATION:

This multidisciplinary approach to teaching science is excellent. Students are captivated by the songs and the familiar Muppets. The programs are motivating, reinforcing concepts that are introduced to many students prior to entering school. The episodes do an excellent job of making contrasts and comparisons. The teacher's guide is comprehensive, providing teachers with the lyrics to the song as well as offering suggestions for additional activities.

SUGGESTED USE:

Introduce, enrich, follow-up, motivate

SUPPORT MATERIALS:

The teacher's guide is comprehensive.

INDIVIDUAL PROGRAM DESCRIPTIONS:

#1 Name That Part (6 minutes)

PROCESS: *Observing, Communicating*

STRAND: Humans

CONTENT OBJECTIVES:

Physical characteristics/Senses

DESCRIPTION:

This episode reinforces familiar parts of the body and introduces more sophisticated parts – calf, thigh, nostrils, wrists.

#2 Joints and Bones (8 minutes)

PROCESS: *Observing, Communicating*

STRAND: Humans

CONTENT OBJECTIVES:

Physical characteristics/Senses

DESCRIPTION:

This program highlights the functions of the ankles, shoulders, knees, and bones.

#3 Listen to Your Body (6 minutes)

PROCESS: *Observing, Communicating,
Comparing*

STRAND: Humans

CONTENT OBJECTIVES:

Physical characteristics/Senses/Health

DESCRIPTION:

Sequences focus on two kinds of body listening – body health signals and body rhythms.

#4 Matching and Comparing (6 minutes)

PROCESS: *Observing, Communicating,
Comparing*

STRAND: Humans

CONTENT OBJECTIVES:

Physical characteristics/Senses

DESCRIPTION:

This final program moves from matching body parts and their functions to matching or comparing body parts and their functions with those of other animals and inanimate objects.



Explore-A-Science Series

SOURCE: D. C. Heath

GRADES: 1 - 6 **RATING:** Desirable

STRAND: Animals, Ecosystems

COPYRIGHT: 1988

PROCESS: Comparing, Data gathering, Inferring

CONTENT OBJECTIVES: Vertebrates and invertebrates, Classifying animals, Food chains and food webs

DESCRIPTION: The *Explore-A-Science Series* consists of five programs. In *Animal Watch Whales* (grades 1 - 3) users classify whales, labeling parts of the whale, identifying different whales and humpback whale behaviors. In *Animal Watch Wolves* (grades 1 - 3) users classify the gray wolf by physical attributes and in comparison with other animals, identify basic stages of a wolf's life cycle, study wolves' methods of communication, and describe cooperation in the pack and in their territory. In *Animal Watch Tracks* (grades 4 - 6) users learn to identify and interpret tracks and recognize gait changes. In *A Closer Look: The Desert* (grades 3 - 6) users identify plants and animals, explore habitats, build data files, and analyze food chains. In *Dinosaur Construction Kit Tyrannosaurus rex* (grades 5 - 6) users investigate the world of archeology, finding buried fossils and using them to reconstruct a Tyrannosaurus rex.

EVALUATION: The *Explore-A-Science Series* investigates a variety of topics through active scientific inquiry. The scenes contain excellent graphics and animation; they can be changed and printed.

SUGGESTED USE: Motivate, introduce, instruct, supplement, enrich, apply. Provide initial class instruction in use, then allow time for students to explore and experiment individually or in small groups.

TYPE: simulation, utility

GROUPING: 1, 2, 3 - 5, class

TEACHER PREPARATION:

TIME:

some; ditto, customize program, planning

20 - 45 minutes, 2 to many sessions

SUPPORT MATERIALS:

EQUIPMENT:

2 disks, backups, teacher's guide, workbooks

Apple II series, 128K; color, printer, mouse, joystick, Koala Pad (optional)

MANAGEMENT: save scenes

PRICE: \$75.00 for each program



GeoWorld: A Living Database

SOURCE: Tom Snyder Productions

GRADES: 6 - 12 **RATING:** Exemplary

STRAND: Geology and Natural Resources

COPYRIGHT: 1986

PROCESS: Observing, Comparing, Organizing, Relating, Inferring, Applying

CONTENT OBJECTIVES: Geologic processes, Mineral crystals, Plate tectonics, Nonrenewable resources, Managing resource conservation, Earth systems, Resource decision making

DESCRIPTION: Students explore the world for one or more of fifteen major resources. A sector is defined by latitude and longitude, and geochemical tests are performed. Quadrants chosen for further investigation are explored with core samples, and an area is selected for mining. The results are recorded, and the percent of the world supply represented is computed.

EVALUATION: This valuable research tool provides a valid picture of the distribution of resources in our interdependent world. Worksheets are included to record the information provided by the program. The computer keeps track of the completed research which the user can review. Data can be transferred to *AppleWorks* for further analysis.

SUGGESTED USE: Motivate, introduce, supplement, enrich, apply. Most useful for classroom instruction using a large monitor. Students need knowledge of geography to use the program effectively.

TYPE: simulation, game, database

GROUPING: 1, 2 - 3, class

TEACHER PREPARATION:

TIME:

some; ditto, explain

20 - 30 minutes, 2 to many sessions

SUPPORT MATERIALS:

EQUIPMENT:

1 double-sided disk and backup, teacher's guide, worksheets

Apple II series; color, printer (optional)

MANAGEMENT: save data

PRICE: \$79.95, Lab pack (10) \$240



If You Could See the Earth

SOURCE: Encyclopaedia Britannica
Educational Corporation

RATING: Exemplary

COPYRIGHT: 1987

GRADES: 2 - 4

STRAND: Astronomy/Mechanics/Geology

PROCESS: Observing, Communicating, Comparing, Organizing

CONTENT OBJECTIVES:

Earth's rotation, Effect of rotation on earth's axis (day and night), Force, Effects of force, Gravity as force, Force description, Features of earth's surface

DESCRIPTION:

The program takes the viewer on a voyage into space and discusses several important features about the earth - the continents and oceans. An episode highlights facts about the rotation of the earth and the force of gravity.

EVALUATION:

The program makes effective use of animation for clearly presenting science concepts. The program is motivating and has a strong curricular match.

SUPPORT MATERIALS:

The teacher's guide includes a synopsis, objectives, and pre- and post-viewing discussion strategies.

SUGGESTED USE:

Reinforce, enrich, follow-up, homework

OTHER SUBJECTS: Social Science

LENGTH: 11 minutes



Light Lab

SOURCE: Creative Technologies

GRADES: 6 - 12 **RATING:** Desirable

STRAND: Light

COPYRIGHT: 1985

PROCESS: Data gathering, Experimenting, Synthesizing, Generalizing

CONTENT OBJECTIVES: Law of reflection, Refraction, Measuring light

DESCRIPTION: Part of the *Science Discovery Series*, *Light Lab* requires the use of the interface included in the *Temperature Lab*. The interface is easy to use, and the directions for calibration are well done. The *Light Lab Experimenter's Guide* provides the information needed to conduct a variety of experiments. Ten detailed projects provide experiences designed to develop a thorough understanding of light and how light can be used as a tool to investigate other phenomena. The program allows data to be collected automatically or manually.

EVALUATION: The well-designed documentation can be used to provide many laboratory experiences. These are carefully structured and open-ended for further investigation. The interfaces are easy to install and use.

SUGGESTED USE: Motivate, introduce, instruct, enrich, apply. Use as a class demonstration; rotate groups through the laboratory station.

TYPE: probeware

TEACHER PREPARATION:

some; equipment set-up, explain, planning

SUPPORT MATERIALS:

1 disk, teacher's guide, lesson plans, worksheets,
light sensor, light assembly, light stand, light stick,
filters, test tube, glow panel

OTHER SUBJECTS:

GROUPING: 1, 2, 3 - 5, class

TIME:

20 - 30 minutes, 3 to many sessions

EQUIPMENT:

Apple II+ (with adaptor from Creative Technologies), Ile, Iic, 64K; printer (optional);
Temperature Lab interface

PRICE: \$50.00



Photosynthesis

SOURCE:	BFA Educational Media	RATING:	Desirable
GRADES:	9 - 12	COPYRIGHT:	1987
STRAND:	Plants/Animals/Ecosystems/Energy		
PROCESS:	Observing, Communicating, Comparing, Organizing, Relating, Inferring, Applying		
CONTENT OBJECTIVES:	Oxygen-CO ₂ cycle (photosynthesis), Source of atmospheric oxygen, Chlorophyll, Animals' needs, Needs of living things, What animals eat, Forms of energy, Origins of energy		
DESCRIPTION:	The program notes that the process of photosynthesis existed in prehistoric times. By means of microscopic photography, a leaf is magnified hundreds of times to show how light is converted to chemical energy. An episode contains an experiment describing how a common house fly uses sugar as an energy source.		
EVALUATION:	The microphotography is superb. The animation takes the viewer deeper into the world of atoms and molecules. The artist's rendering clarifies how light energy from the sun triggers photosynthesis from plants. Because information is presented in a fast-paced, technical manner, it is recommended that the program be used to conclude a unit on photosynthesis. The microphotography, animation, and concise narrative create an outstanding program.		
SUGGESTED USE:	Enrich, follow-up, homework		
SUPPORT MATERIALS:	The teacher's guide includes a synopsis and pre- and post-viewing activities.		
		LENGTH:	12 minutes



Plant Growth Simulator: Elementary Version

SOURCE:	Focus Media	GRADES:	3 - 9	RATING:	Desirable
STRAND:	Plants	COPYRIGHT:	1986		
PROCESS:	Observing, Communicating, Comparing, Relating				
CONTENT OBJECTIVES:	Plant needs from soil, Plant adaptations, Root functions, Flower functions, Seed germination, Vegetative reproduction				
DESCRIPTION:	The package consists of ten simulations involving pollination and fertilization, six simulations of fruit formation and spreading of seeds, seven simulations of plant growth and tropisms, four simulations of reproduction without seeds, and a review and quiz on flower parts. Growth processes that normally take a long period of time or cannot be observed are simulated in animated sequences.				
EVALUATION:	Excellent animated graphics show processes not normally seen. The effects of gravity and light over a long period of time are demonstrated. The program is easy to use. Support materials are well written and easy to understand.				
SUGGESTED USE:	Introduce, instruct, supplement, enrich. Discussion was generated through class demonstration or working in groups.				
TYPE:	demo, simulation	GROUPING:	1, 2 - 3, class		
TEACHER PREPARATION:	minimal; dittos	TIME:	20 - 30 minutes, 4 sessions		
SUPPORT MATERIALS:	2 double-sided disks, backups, teacher's guide, worksheets, student workbook	EQUIPMENT:	Apple II series		
OTHER SUBJECTS:		PRICE:	\$99.00		
MANAGEMENT:					



Playing With Science: Temperature

SOURCE: Sunburst Communications **GRADES:** K - 12 **RATING:** Desirable

STRAND: Heat

COPYRIGHT: 1987

PROCESS: Organizing, Data gathering, Experimenting, Analyzing

CONTENT OBJECTIVES: Temperature, Effects of heating matter, Heat capacity, Conduction, Convection

DESCRIPTION: The three thermistor probes connected to a 9-pin connector in the computer provide a simple and effective way to input data. The data can be collected and analyzed or stored for future analysis. Menus allow easy access to all parts of the program, including the calibration of the probes. Line, bar, thermometer, and digital displays are available. The visibility of the digital-style display is helpful for classroom demonstration. Support materials include 33 lessons for kindergarten through seventh grade.

EVALUATION: The simplicity of the probe interface, the excellent graphics capability, and the high quality of the support materials will encourage teachers to use this software. The menu screens allow easy use.

SUGGESTED USE: Motivate, introduce, supplement, enrich, apply. Provide initial class instruction in use, then use individually or in small groups to collect data. Can be used as a class demonstration.

TYPE: probeware

GROUPING: 1, 2 - 3, class

TEACHER PREPARATION:

TIME:

some; ditto, equipment set-up, explain

20 - 30 minutes, 2 to many sessions

SUPPORT MATERIALS:

EQUIPMENT:

1 disk, backup, teacher's guide, objectives,

Apple II+ (with adaptor cable from Sunburst)

lesson plans, worksheets

IIc, IIc, IIgs, 64K; printer (optional)

OTHER SUBJECTS:

PRICE: \$99.00

MANAGEMENT: save data



Return of the Sea Otter

SOURCE: Filmmakers Library **RATING:** Exemplary

GRADES: 9 - 12

COPYRIGHT: 1987

STRAND: Animals/Ecosystems

PROCESS: Observing, Comparing, Organizing, Relating, Inferring

CONTENT OBJECTIVES:

Animal adaptations, Care of young: Warm-blooded, Food for energy, Population stability, Human effect on population

DESCRIPTION:

This program highlights how the efforts of scientists to save a nearly extinct species succeeded. Because sea otters were hunted for their pelts since the time of Captain Cook, they were near extermination in the mid-twentieth century.

Episodes highlight how they feed, breed, and groom themselves. While hunting of otters has been stopped, they remain especially vulnerable to water pollution.

EVALUATION:

This program, produced by Canadian Broadcasting Corporation, has excellent photography. It is extremely informative and interesting.

SUPPORT MATERIALS:

The teacher's guide includes a synopsis.

SUGGESTED USE:

Introduce, enrich, homework

OTHER SUBJECTS: Social Science, California Studies

LENGTH: 21 minutes



Solar System: A First Film

- SOURCE:** BFA Educational Media **RATING:** Exemplary
- GRADES:** 3 - 6 **COPYRIGHT:** 1986
- STRAND:** Astronomy
- PROCESS:** Observing, Comparing, Organizing, Relating
- CONTENT OBJECTIVES:**
Sun and moon; Planets, asteroids, meteoroids, comets; Planets and stars
- DESCRIPTION:**
This program introduces the solar system. Simulated fly-bys of space probes near the planets provide a sense of what some of our space neighbors are like. One simulation traces the evolution of the solar system to its present form.
- EVALUATION:**
This is a program that is useful at any time during a unit - introduction, reinforcement, or review. The visual quality is excellent; the narrative is clear and well-organized. The simulations help make this a valuable material for use in the classroom.
- SUGGESTED USE:**
Introduce, reinforce, follow-up
- SUPPORT MATERIALS:**
The teacher's guide includes objectives, a synopsis, and pre- and post-viewing discussion.
- LENGTH:** 12 minutes



Sound: A Microcomputer-Based Lab

- SOURCE:** HRM Software/Queue **GRADES:** 6 - 9 **RATING:** Exemplary
- STRAND:** Sound **COPYRIGHT:** 1987
- PROCESS:** Observing, Comparing, Data gathering, Inferring, Analyzing, Predicting Patterns
- CONTENT OBJECTIVES:** Perception of pitch, Loudness and amplitude
- DESCRIPTION:** Five investigations with student worksheets are designed to develop an understanding of sound. The program measures and displays a graph of a sound continuously, as with an oscilloscope, or can freeze the pattern to form an amplitude versus time graph. The split-screen option allows the graphs of two sounds to be compared side by side. The *Microcomputer-Based Lab* series also includes *Motion* and *Heat and Temperature*.
- EVALUATION:** Five well-designed investigations help students to develop an understanding of the concepts of sound. The program permits running several experiments in one class period. Excellent support materials are included.
- SUGGESTED USE:** Motivate, introduce, instruct, enrich, apply. Use as a class demonstration; rotate groups through laboratory station.
- TYPE:** probeware
- TEACHER PREPARATION:** some; equipment set-up, explain, planning
- SUPPORT MATERIALS:** 2 disks, teacher's guide, objectives, interface card, interface box, microphone, lesson plans, worksheets
- OTHER SUBJECTS:**
- MANAGEMENT:** save data
- GROUPING:** 1, 2, 3 - 5, class
- TIME:** 20 - 30 minutes, 3 to many sessions
- EQUIPMENT:** Apple II series; printer (optional)
- PRICE:** \$265.00; quantity discounts available



That's Life: Field Ecology Simulation

SOURCE: Mindscape

GRADES: 6 - 12 **RATING:** Desirable

STRAND: Ecosystems

COPYRIGHT: 1987

PROCESS: Data gathering, Formulating hypotheses, Analyzing, Predicting Patterns, Applying

CONTENT OBJECTIVES: Competition, Population stability, Climate and populations, Food chains, Cycles in ecosystems, Effects of changes within ecosystem

DESCRIPTION: This program simulates a biologist managing a herd of deer on an island. Availability of food and predators are major variables. The user can perform a deer health check and can survey plants, deer, and predators. With the information obtained, the herd can be managed by introducing or removing predators or removing deer. Keeping good records is essential.

EVALUATION: Students develop scientific skills as they generate and test hypotheses through several annual cycles. Support materials provide all of the background information needed.

SUGGESTED USE: Motivate, introduce, supplement, enrich. Use in small groups to encourage cooperative learning.

TYPE: simulation

GROUPING: 1, 2 - 5

TEACHER PREPARATION:

TIME:

some; ditto, equipment set-up, explain

20 minutes, 3 to many sessions

SUPPORT MATERIALS:

EQUIPMENT:

1 double-sided disk and backup, teacher's guide, worksheets

Apple II series; color (optional)

OTHER SUBJECTS:

PRICE: \$49.95, Lab pack (5) \$99.90



Weather and Climate Lab

SOURCE: Scholastic

GRADES: 6 - 12 **RATING:** Desirable

STRAND: Meteorology

COPYRIGHT: 1987

PROCESS: Data gathering, Inferring, Analyzing, Predicting Patterns, Formulating models

CONTENT OBJECTIVES: Weather, Climate, Relative humidity

DESCRIPTION: The "Weather Data Disk" data, from the National Oceanic and Atmospheric Administration, for January and July, 1985, illustrate seasonal variations in climate. The "Climate Data Disk" contains data for 77 locations in the United States. The activities are designed to encourage active learning, enabling students to act as scientists and arrive at an understanding of weather and climate concepts. The activities require the use of the *AppleWorks* word processor, spreadsheet, and database. Students analyze real data, draw conclusions, and make inferences.

EVALUATION: The database and support materials allow students to develop valuable skills and to use the computer for gathering and processing information. Sixteen lessons on weather and climate include extensive instruction in the use of *AppleWorks*. The excellent support materials promote easy implementation of the program.

SUGGESTED USE: Instruct, supplement, enrich, apply. Students need experience with *AppleWorks* prior to using the program. The database can be used as a research tool for other projects.

TYPE: database

GROUPING: 2 - 4

TEACHER PREPARATION:

TIME:

extensive; ditto, explain

20 - 30 minutes, many sessions

SUPPORT MATERIALS:

EQUIPMENT:

2 double-sided disks, teacher's guide, worksheets

Apple II series, 128K; printer (optional)

OTHER SUBJECTS:

PRICE: \$59.95

MANAGEMENT: save data



Wonder World of Science

(Ten 10-minute to 13-minute programs)

SOURCE: Coronet Film and Video

RATING: Exemplary

GRADES: 1 - 3

COPYRIGHT: 1986

SERIES DESCRIPTION:

Each program in the series poses questions students frequently ask. The series uses a Wondercat, a curious animated cat, to help answer the questions.

SERIES EVALUATION:

The series presents difficult concepts in concrete terms. Animation and live-action photography combined with a carefully developed narrative create an effective instructional presentation - one that enables students to learn by observing, by comparing the familiar with the unfamiliar, and by drawing their own conclusions.

SUGGESTED USE:

Reinforce, review, homework, apply

SUPPORT MATERIALS:

The teacher's guide for each program includes a summary, learning objectives, pre- and post-viewing discussion strategies.

OTHER SUBJECTS: Language Arts

INDIVIDUAL PROGRAM DESCRIPTIONS:

(Only programs which received "Exemplary" ratings are included in this update.)

#2 **Where Do Lost Balloons Go?** (11 minutes)

PROCESS: *Observing, Comparing, Communicating, Organizing, Inferring*

STRAND: Technology/Meteorology/Matter/Mechanics

CONTENT OBJECTIVES:

Science processes, Air, Air pressure, Classifying matter, Weight

DESCRIPTION:

Wondercat loses his balloon and gains an understanding of the behavior of the invisible gas we call air - how it moves in and out of things, how it pushes on things, and how it behaves when things move through it. Wondercat also learns to recognize solids, liquids, and gases.

#6 **Why Doesn't Grass Grow on the Moon?** (11 minutes)

PROCESS: *Observing, Comparing, Communicating, Organizing, Inferring*

STRAND: Technology/Ecosystems/Plants

CONTENT OBJECTIVES:

Science processes, Needs of living things, Plants and soil, Root functions, Plants and temperature

DESCRIPTION:

Wondercat discovers what grass and green plants need to grow anywhere. He finds out what conditions exist on the moon. He then determines why grass can't grow on earth's satellite.

#8 **Why Do Cats Have Whiskers?** (10 minutes)

PROCESS: *Observing, Comparing, Communicating, Organizing, Inferring*

STRAND: Technology/Animals

CONTENT OBJECTIVES:

Science processes, Animals' needs, Animal movement, Animal characteristics

DESCRIPTION:

Wondercat learns about the five senses, discovers how a cat's senses make it a good hunter, compares the senses of a predator with those of its prey, and notes that felines have an exceptional sense of balance.

Technology in the Curriculum Resource Guide: Visual and Performing Arts – 1988 Update

Computer Software Component

The software for this 1988 Update was selected according to the criteria outlined in the original *Technology in the Curriculum: Visual and Performing Arts Resource Guide*. The evaluators endeavored to find the very best software in this field released since completion of the evaluation process for the first guide.

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Recommended Technology

Title	Rating	Page
Animate	E	61
Comic Strip Factory	D	61
816/Paint V.3.1	E	63
Hear Today . . . Play Tomorrow Series	D	65
HyperCard	E	66
Jam Session	E	67
Keyboard Arpeggios, Music MIDIworks Series	D	68
National Gallery of Art Laserguide	E	68
PageMaker V.2.0	E	69
Paintworks Plus V.1.2	E	69
Picture Perfect	D	70
ShowOff	E	66
VideoWorks II	E	70

Instructional Video Component

Evaluators used the criteria published in the original resource guide for the visual and performing arts. Eighty video programs that became available since the completion of the first guide were evaluated.

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Recommended Technology

Title	Rating	Page
Discovering the Orchestra	E	62
European Art School: Basic Art Education	E	64
Grant Wood's America	E	63

Recommended Technology



Animate

DISCIPLINE: Visual Arts

GRADE: 5-12

PRICE: \$69.95

SOURCE: Broderbund

COPYRIGHT: 1986

RATING: Exemplary

CONCEPT: Creative Expression

DESCRIPTION:

Animate is an enhanced paint program which allows the user to create professional quality still and animated graphics. Its possibilities range from a single sheet image to a timed sequence over a double hi-res background with an almost lifelike quality. Operator can create a sound track melody of single notes with the built-in (but limited) synthesizer.

EVALUATION:

This fine program is limited only by low memory. For example, the program disk must be turned over for on-screen help. In addition, detailed figures and backgrounds must be created by the use of a program such as *Dazzle Draw* and then converted to the *Animate* system. However, the User's Manual and *The Art of Animation* text are excellent and should be used by both the beginner and advanced animator. One excellent feature is the zoom and grid combination, which allows the user easily to control the animation of a single portion of the full screen image.

SUPPORT MATERIALS: User's Manual and Text, *The Art of Animation*

EQUIPMENT NEEDED: Apple II Series 128k/Color Monitor/Two Drives Recommended

OTHER VERSIONS:

STYLE: Creative tool

LEARNING TIME: 2 hours

CROSS DISCIPLINES: Dance, Drama, Music



Comic Strip Factory

DISCIPLINE: Visual Arts

GRADE: 4-12

PRICE: \$90.00

SOURCE: Foundation Publishing, Inc.

COPYRIGHT: 1987

RATING: Desirable

CONCEPT: Creative Expression

DESCRIPTION:

This program contains a wide variety of clip art figures, backgrounds, and text capabilities. The layout possibilities are adequate to create a multitude of comics and comic strip configurations. The program can be expanded by using the "Scrapbook" and "Art Grabber" desk accessory. It also contains a *HyperCard* option to create comics in *HyperCard* size and formats.

EVALUATION:

The manual is fun to read, models capabilities of the program, and is very clear and direct. The program can be augmented with any *MacPaint*-compatible program such as *FullPaint*, *SuperPaint*, *MacBillboard*, or *ComicWorks*. A second disk of "Comic People" is also available.

SUPPORT MATERIALS: User's Manual

EQUIPMENT NEEDED: Macintosh 512k/Second Drive

OTHER VERSIONS:

STYLE: Creative tool

LEARNING TIME: 1 hour

CROSS DISCIPLINES: Drama



Discovering the Orchestra

DISCIPLINE: Music

GRADE: 4-10

SOURCE: SirS, Inc.

COPYRIGHT: 1984

RATING: Exemplary

CONCEPT: Aesthetic Perception
Historical/Cultural Heritage

DESCRIPTION:

This five-part series explores the world of the symphony orchestra through its instrumental families. Members of London's Royal Philharmonic Orchestra perform music written especially for each instrument. Each program opens with a short historical background on the sites where the programs were produced. Segments describe the characteristics of the instruments' shapes and the materials from which they are made.

EVALUATION:

This high-quality series offers students, in an interesting manner, an overview of the orchestra – from the raw material used for making instruments to a polished symphony performance.

SUPPORT MATERIALS: Teacher's Guide

EQUIPMENT NEEDED: VCR/Color Monitor

STYLE: Demonstration

LEARNING TIME: 24-25 minutes

#1 - Strings (25 minutes)

This episode introduces the string family, the backbone of the symphony orchestra. Principal string-players demonstrate size/pitch relationship among the instruments in this group.

#2 - Brass (24 minutes)

This program highlights the similarities and differences in the methods of sound production between strings and brass. A segment reviews the size/pitch relationships among the instruments in this section.

#5 - Thrill of the Orchestra (24 minutes)

This culminating program brings to one stage all the symphonic instruments for a performance of Rimsky-Korsakov's *Capriccio Espagnol*. One segment illustrates the orchestral seating plan, while another offers backstage glimpses of the players.

(The three programs listed above were rated "Exemplary." Program #3, **Woodwinds**, and Program #4, **Percussion**, were rated "Desirable.")



816/Paint V.3.1

DISCIPLINE: Visual Arts

GRADE: 2-12

PRICE: \$75.00

SOURCE: Baudville

COPYRIGHT: 1987

RATING: Exemplary

CONCEPT: Creative Expression

DESCRIPTION:

This text and paint program is full-featured and works with four Apple II high resolution graphics modes. Its features include: full-page pictures, full-screen painting, variable magnification zoom, and color animation by means of palette cycling. The tutorial is excellent and supports this very user-friendly program.

EVALUATION:

816/Paint is extremely easy to learn and use. The painting tools are extensive, the text editor allows for custom font size, and the images can be cut, pasted, copied, stretched, and reduced. The hue, saturation, and intensity of the colors can be easily manipulated.

SUPPORT MATERIALS: Instruction Manual

EQUIPMENT NEEDED: Apple IIs 512k for Super Hi-Res Graphics/Apple II Series 128k for Standard Hi-Res and Double Hi-Res Modes/Mouse/Color Monitor Desirable

OTHER VERSIONS:

STYLE: Creative tool

LEARNING TIME: 20 minutes

CROSS DISCIPLINES:



Grant Wood's America

DISCIPLINE: Visual Arts

GRADE: 9-12

SOURCE: International Film Bureau

COPYRIGHT: 1985

RATING: Exemplary

CONCEPT: Aesthetic Perception
Historical/Cultural Heritage

DESCRIPTION:

This documentary traces Grant Wood's development as an artist — from Minneapolis to Cedar Rapids to Paris to his ultimate return to Iowa. The program juxtaposes the landscapes of Iowa with the paintings Wood composed of them. Eddie Albert narrates, pointing out Wood was interested in preserving American legends while recognizing their inaccuracies.

EVALUATION:

This program offers a fresh examination of Grant Wood's paintings within the context of life in America. It will help students discover, appreciate, and respect this artist's contribution to the twentieth century.

SUPPORT MATERIALS: Teacher's Guide

EQUIPMENT NEEDED: VCR/Monitor

STYLE: Lecture, Documentary, Demonstration

LEARNING TIME: 29 minutes

CROSS DISCIPLINES: Social Science, United States History



European Art School: Basic Art Education

DISCIPLINE: Art

GRADE: 9-12

SOURCE: European Art School

COPYRIGHT: 1984

RATING: Exemplary

CONCEPT: Aesthetic Perception
Aesthetic Valuing
Creative Expression
Historical/Cultural Heritage

DESCRIPTION:

This four-part, European-produced series is a basic art education course. The programs are illustrated with live shots from the Vincent Van Gogh Museum in Amsterdam, the Netherlands. Each program demonstrates art techniques, describes artistic concepts — color, composition, perspective, form, etc. — and documents the fabrication of art materials and supplies.

EVALUATION:

The brief introduction by the Dutch creator of the series sets the tone — one that encourages developing creative expression and the artistic skills, expanding aesthetic perception, acquiring knowledge of historical developments, and developing a base for making aesthetic judgments. The pacing of the program is enhanced by the narrative changes — a voice-over narrator and an on-camera instructor. The narrative is clear, precise — often poetic. The classical music background, woven appropriately throughout the program, creates a multi-disciplinary experience. Because of the length of the programs and the number of techniques and concepts introduced, teachers must plan carefully how to use the various segments to create concise lessons. The four-program series could be used throughout a semester course.

SUPPORT MATERIALS: Teacher's Guide

EQUIPMENT NEEDED: VCR/Monitor

STYLE: Lecture, Demonstration, Documentary

LEARNING TIME: 35-47 minutes

#1 - Drawing (35 minutes)

This program introduces pencils, pencil technique, contour drawing, and gesture drawing. Segments model the three-dimensional form and offer a brief documentary on pencil fabrication.

#2 - Drawing (Continued) (47 minutes)

This episode describes the following: basic forms (cube, sphere, cone, cylinder); volume and space; charcoal and charcoal techniques; light and shadow; value; keys; mood; ink techniques; and perspective. It includes a documentary on the fabrication of brushes.

#3 - Color (47 minutes)

This segment highlights the following: color theory; color circle; primary, secondary, and tertiary colors; complementary colors; warm and cool colors; mixing value in color; intensity of colors; light and shadow in color; and textures in oil, watercolor, gouache, and acrylics. It presents a short documentary on the fabrication of artists' colors.

#4 - Composition (47 minutes)

This final program of the series focuses on the following: natural, geometrical, and abstract shapes; place of shapes in picture-area; positive and negative shapes; movement and rhythm; color in composition; abstract and realistic composition; and the construction of the composition.



Hear Today . . . Play Tomorrow Series

DISCIPLINE: Music

GRADE: 6-12 (beginning students)

PRICE: \$99.95 series, \$39.95 each program

SOURCE: Electronic Courseware Systems

COPYRIGHT: 1985-6

RATING: Desirable

CONCEPT: Aesthetic Perception

SERIES DESCRIPTION:

The three programs in this series can be used independently or sequentially. They are designed to strengthen musical skill in aural and visual recognition of intervals, melodies, and rhythms. Two of the programs challenge the user to identify aurally the various intervallic, melodic, and rhythmic patterns and then to construct them visually on staff notation. The other is a matching program.

SERIES EVALUATION:

All musical examples were found to be accurate and relevant. The programs are friendly and are clearly presented, with abundant help and gentle correction. All instructions are on-screen. All programs come with a sophisticated instructor management option which keeps a roster and records the individual progress of up to 50 enrolled students. Scores are protected by passwords and can be saved on the program disk. The following limitations of the programs are noted:

- intervals were all diatonic, no chromatics;
- there is no mention in any of the programs of the quality of intervals (e.g., major, minor, augmented, diminished);
- although the user could enter any level by menu choice and escape (without scoring) at will, once in the program unit, it was totally linear; and
- at the beginning of each level in interval sections the user could not prevent an "introduction" or "review" of linear interval demonstration.

PROGRAMS:

Ear Training Skills. Students are challenged by six levels of increasing difficulty in aural and visual identification and construction of two- to five-note melodic patterns in choices of major and minor keys. Program uses skip patterns WITHIN tonic chords and step patterns FROM tones in the tonic chords. There are no "tunes" as such and no rhythmic study; program is diatonic only.

Find That Tune. The user selects either "match" or "no match" in this matching program in two levels. Legitimate aural tunes are presented, each with three visually notated tunes. Completion requires 20 examples with 80% accuracy. No construction is involved.

Ascending and Descending Intervals. Levels 1-3 require the user to identify two pitches aurally, notate the second pitch on the staff, and then identify the interval from "1" or from "8" (e.g., unison, 2nd, 3rd). Twenty examples with 80% accuracy are required for completion of each level. Level 4 uses a similar procedure with actual tunes; it does not require interval name identification, but adds the element of rhythmic values. Upon correctly setting up pitches or rhythms or pitches and rhythms of all four tunes, user is awarded completion. The program offers liberal opportunity for replay but tends to be slow.

SUPPORT MATERIALS: None

EQUIPMENT NEEDED: Apple II Series

OTHER VERSIONS:

STYLE: Drill and practice, Test

LEARNING TIME: 10-12 hours

CROSS DISCIPLINES:



HyperCard

DISCIPLINE: Visual Arts
GRADE: 5-12
PRICE: \$39.00 (free with the purchase of a Macintosh II or SE)
SOURCE: Apple
COPYRIGHT: 1987

RATING: Exemplary

CONCEPT: Creative Expression
Historical/Cultural Heritage

DESCRIPTION:

HyperCard allows the user to access, organize, create, and deliver large amounts of information. This capacity may include any combination of text, graphics, sound, animation, and video. The system is based on linking "cards" with text, still graphics, and animated graphics within "stacks" that can be accessed by combinations of related information.

EVALUATION:

This is an amazing program for novice or experienced Macintosh users. Students will be able to make professional-quality multimedia presentations based on their research. The templates, text options, graphics capabilities, and clip art files included can be used for dramatic effect with comparative ease. The user will need directed instruction or the use of a tutorial disk for most efficient program application.

SUPPORT MATERIALS: User's Guide

EQUIPMENT NEEDED: Macintosh II, Plus, SE/Hard Drive Is Highly Recommended

OTHER VERSIONS:

STYLE: Creative tool

LEARNING TIME: 6 hours

CROSS DISCIPLINES: Dance, Drama, Music



ShowOff

DISCIPLINE: Visual Arts
GRADE: 6-12
PRICE: \$69.95
SOURCE: Broderbund
COPYRIGHT: 1987

RATING: Exemplary

CONCEPT: Creative Expression

DESCRIPTION:

ShowOff is a sophisticated paint program much like *Dazzle Draw*. In addition to standard paint program features it allows the user to create overhead transparencies, on-screen "slide-shows," posters, and single-sheet printed graphics. With this program a 35mm slide projector can be controlled and made part of a multimedia presentation.

EVALUATION:

An outstanding creative tool for students. Using the icon editor the user can select, copy, and modify either the clip art included with the program or graphics imported from other sources. The sequence editor makes it possible to put the artwork created into a desired order, and to display each frame in that order, manually or automatically.

SUPPORT MATERIALS: User's Guide, Teacher's Guide

EQUIPMENT NEEDED: Apple IIgs 512k/Double-sided Disk Drive/Mouse/Color Monitor Recommended

OTHER VERSIONS:

STYLE: Creative Tool

LEARNING TIME: 2 hours

CROSS DISCIPLINES:



Jam Session

DISCIPLINE: Music

GRADE: 6-12

PRICE: \$49.95

SOURCE: Broderbund

COPYRIGHT: 1987

RATING: Exemplary

CONCEPT: Creative Expression

DESCRIPTION:

This program provides a solid group of "pros" at the user's side to demonstrate creative musical ideas on command. The user can then "sit in" with them to duplicate their feats with virtually no previous skill or experience. The user can improvise live notes and short melodic figures or "riffs" over any of 19 selectable, original, thoroughly musical stock commercial background pieces, with authentic instrumentation of sampled sounds, simply by pressing computer keys which summon the programmed figures on command. Double keying permits counterpoints. A menu-summoned display indicates what instrumentation will be engaged by the keys. There are well over 2,000 notes and riffs in the program, distributed among the following categories of pieces: classical, country, jazz, Chuck Berry 50s, boogie, Jamaican reggae, Latin, heavy metal, blues, studio rock, techno-pop, 1920s-style chase, drums and percussion, and rap. Each has a kaleidoscopic variety of notes and figures which the user can improvise, study, edit, and save, in combination with the programmed backgrounds. Tempo can be set from very slow, allowing detailed study, to very fast. All riffs and notes can be called up for visual examination in standard notation. A keyboard picture feature shows the riffs and notes on an active keyboard diagram while the music is in progress. "Performances" and riff edits may be recorded and saved.

EVALUATION:

The self-instructional possibilities of this outstanding program are endless for exploring scales, patterns, and styles of musical expression. Rich in fascination and boundless in interest to the user, it is friendly and accessible. It is simple enough for the young beginner yet offers limitless challenge and opportunity to the serious student of performance and musical styles. The audio quality is superb. Requiring no special skills or equipment beyond the computer and headphones, this may be the finest instantaneous creative tool for musical experimentation and instruction available. A crude built-in monophonic synthesizer feature might well have been omitted, and the User's Guide leaves much to trial and error, but inevitably the trials lead to success. This is truly a cost-effective tool for enhancing music education.

SUPPORT MATERIALS: User's Guide

EQUIPMENT NEEDED: Macintosh 512k, Plus, SE/Two Drives/Formatted Blank Disk/Headphones or External Speaker Recommended

OTHER VERSIONS: Apple IIgs

STYLE: Demonstration and practice, Creative tool

LEARNING TIME: 1 hour

CROSS DISCIPLINES:



Keyboard Arpeggios, Music MIDIworks Series

DISCIPLINE: Music

GRADE: 4-12

PRICE: \$79.95

SOURCE: Electronic Courseware Systems

COPYRIGHT: 1985

RATING: Desirable

CONCEPT: Aesthetic Perception

DESCRIPTION:

Program presents major and minor triads in ascending arpeggios with instructions for standard and special keyboard fingerings, left and right hands, in all keys. It assumes user knowledge of notation and triad structure. Two sections, but not the final exam, test user's knowledge of fingerings. An instructor management option creates a student roster with individual protected scores to save to disk and/or to print.

EVALUATION:

This is an effective tool for teaching keyboard triad fingerings to beginners without excessive teacher monitoring. It also allows practice in cognitive and motor understanding of triads through use of an actual keyboard. The program is not challenging to intermediate or advanced students.

SUPPORT MATERIALS: All Instructions Are On-Screen

EQUIPMENT NEEDED: Apple II Series/Requires MIDI Interface Card, MIDI Cables, MIDI Keyboard/Amplifier, Headphones, or External Speaker Optional

STYLE: Instruction, Drill and practice

LEARNING TIME: 1 hour

CROSS DISCIPLINES:



National Gallery of Art Laserguide

DISCIPLINE: Visual Arts

GRADE: 4-12

PRICE: \$59.95

SOURCE: Voyager

COPYRIGHT: 1987

RATING: Exemplary

CONCEPT: Historical/Cultural Heritage
Aesthetic Valuing

DESCRIPTION:

This laserguide, created with *HyperCard*, is a comprehensive index to the *National Gallery of Art* videodisc. By the use of the laserguide, works of art in the National Gallery of Art collection can be organized and viewed according to such categories as artist, nationality, period/style, date, medium, and subject. (A similar laserguide for the *Vincent Van Gogh* videodisc is also available.)

EVALUATION:

This sophisticated program can be used with remarkable ease once the necessary laserdisc and equipment are assembled. The laserstack turns the still photos and motion pictures stored on the videodisc into a vast visual database that can be easily explored and used in innumerable ways by teachers and students. A must for every art history teacher.

SUPPORT MATERIALS: User's Manual

EQUIPMENT NEEDED: Macintosh Plus, SE, II, Hard Drive/Color Monitor/*HyperCard*/Laserdisc Player with RS-232 Interface, Appropriate Cables/*National Gallery of Art* videodisc

STYLE: Demonstration, Documentary

LEARNING TIME: 20 minutes

CROSS DISCIPLINES:



PageMaker V.2.0

DISCIPLINE: Visual Arts

GRADE: 7-12

PRICE: \$495.00

SOURCE: Aldus

COPYRIGHT: 1987

RATING: Exemplary

CONCEPT: Creative Expression

DESCRIPTION:

PageMaker is a desktop publishing program appropriate for the novice or skilled designer. It is an electronic layout board which permits the integration of text and graphics documents created with a scanner or with programs such as *MacWrite*, *Microsoft Word*, *Microsoft Works*, *MacPaint*, *SuperPaint*, *FullPaint*, *MacDraw*, and *Cricket Draw*, or with EPS formats. However, simple graphics and text may be directly entered and formatted by means of this program. (*Ready-Set-Go* is another fine desktop publishing program to consider.)

EVALUATION:

This is an outstanding program. When copy is printed on a laser printer, the quality approaches that of typeset copy. Students can create professional quality yearbooks, illustrated literary magazines, or performing arts programs. The tutorial and support resources provided are excellent, but directed instruction for the user is valuable for the most effective use of the program.

SUPPORT MATERIALS: User's Manual, Installation Guide, Reference Manual

EQUIPMENT NEEDED: Macintosh Plus, SE with Hard Drive, or II

OTHER VERSIONS: IBM, Lab Pack Contains Teacher's Manual, Overheads, Student Manuals, Data Disks

STYLE: Creative tool

LEARNING TIME: 1 hour

CROSS DISCIPLINES: Dance, Drama, Music



Paintworks Plus V.1.2

DISCIPLINE: Visual Arts

GRADE: 3-12

PRICE: \$69.95

SOURCE: Activision

COPYRIGHT: 1987

RATING: Exemplary

CONCEPT: Creative Expression

DESCRIPTION:

Paintworks Plus is a graphics, paint, and animation program with 4,096 color possibilities. It allows the user to combine up to sixteen colors in a single picture. Up to 128 customized color palettes may be saved for easy color access. A "Clip Art Gallery" disk with over 650 pictures in 26 categories is included with the program. It also can be used with Activision's *Writer's Choice Elite* and *Draw Plus* for a rich text and graphics integration.

EVALUATION:

Because this program is not copy-protected, it can easily be installed on a hard disk; or a legal backup copy can be made. The fifteen easily manipulated "tools" make this a particularly effective program for creating visual images of high quality. One unique feature is a color search that identifies all areas of an image that uses any color or color shade.

SUPPORT MATERIALS: User's Manual

EQUIPMENT NEEDED: Apple IIs 512k/3.5-inch Drive/Mouse/Color Monitor Recommended

OTHER VERSIONS:

STYLE: Creative tool

LEARNING TIME: 20 minutes

CROSS DISCIPLINES:



Picture Perfect

DISCIPLINE: Visual Arts

GRADE: K-5

PRICE: \$49.99, Lab pack (6) \$120.00

SOURCE: Mindplay

COPYRIGHT: 1984

RATING: Desirable

CONCEPT: Creative Expression

DESCRIPTION:

A beginning graphics and text program designed to introduce children to the capabilities of the computer. There are limited text and graphics tools available. However, those included are easy to access and to manipulate.

EVALUATION:

Picture Perfect is a simple program designed for children to use to draw, illustrate, and write stories. The 72 images in the clip art file are outline shapes and can easily be varied in size and placement. The images can be colored on or off the computer for fine graphic effects.

SUPPORT MATERIALS: User's Guide, Teacher's Supplement

EQUIPMENT NEEDED: Apple II Series/Joystick or Mouse/Color Monitor Desirable; Apple IIs at Normal Speed

OTHER VERSIONS: IBM, Colorgraphic Capability Required

STYLE: Creative tool

LEARNING TIME: 30 minutes

CROSS DISCIPLINES:



VideoWorks II

DISCIPLINE: Visual Arts

GRADE: 10-12

PRICE: \$195.00

SOURCE: MacroMind, Inc. by Broderbund

COPYRIGHT: 1987

RATING: Exemplary

CONCEPT: Creative Expression

DESCRIPTION:

VideoWorks II is an animation program used to create still or moving images with text and original graphics. The program also includes clip art and animation files, black and white movies, and sounds for the animator to adapt. The sound files, including voice, music, and other sounds, can be adapted for tempo, volume, and transition. The program is not copy-protected for ease of use. Paint and graphics programs like *MacPaint*, *FullPaint*, *GraphicWorks*, *SuperPaint*, *MacDraw*, *MacDraft*, and *Graphic Works* expand the *VideoWorks* capabilities.

EVALUATION:

Through the use of an overview window feature, icon indicators are used instead of text. Beginning and experienced animators are thereby enabled to link complex sequences with different types of documents under one "shell" program. In addition, a clip animation feature allows simple movements to be added to still slide shows. The manual is excellent and includes a section on the process of animation. Note: There is one brief sequence of stylized nude figures.

SUPPORT MATERIALS: User's Manual

EQUIPMENT NEEDED: Macintosh 512k, Plus, SE or II/One Double-sided 800k or Two Single-sided 400k Drives or Hard Drive/Color Monitor Desirable

OTHER VERSIONS:

STYLE: Creative tool

LEARNING TIME: 2 hours

CROSS DISCIPLINES: Dance, Drama, Music

Sources

Computer Software Publishers and Instructional Video Producers

This list provides addresses for computer software publishers and instructional video producers whose materials appear in the **Recommended Technology** section of this guide.

Computer Software Publishers

Many of the listed software programs are available through local stores or distributors.

Activision
2350 Parkway
Mountain View, CA 94043

Aldus
411 First Avenue South, #200
Seattle, WA 98104

Apple Computer Co.
contact your
Authorized Apple Dealer

Baudville
5380 52nd Street, S. E.
Grand Rapids, MI 49508

Blue Lion Software
90 Sherman Street
Cambridge, MA 02140

Broderbund
17 Paul Drive
San Rafael, CA 94903-2101

Creative Technologies
Box 1009
Carlisle, PA 17013

D.C. Heath
2700 N. Richardt Avenue
Indianapolis, IN 46219

Didatech Software
3812 William Street
Burnaby, B.C., Canada, V5C 3H9

Educational Publishing Concepts
P.O. Box 715
St. Charles, IL 60174

Electronic Courseware Systems
1210 Lancaster Drive
Champaign, IL 61821

Focus Media
839 Stewart Avenue
P.O. Box 865
Garden City, NY 11530

Foundation Publishing, Inc.
6436 City West Parkway
Minneapolis, MN 55436

Hartley Courseware
123 Bridge Street
Dimondale, MI 48821

HRM Software
A Division of Queue, Inc.
562 Boston Avenue
Bridgeport, CT 06610

IBM Educational Systems
3301 Windy Ridge Parkway
Marietta, GA 30067

MacroMind, Inc. by Broderbund
17 Paul Drive
San Rafael, CA 94903-2101

McGraw-Hill School Division
8171 Redwood Boulevard
Novato, CA 94947

MECC
3490 Lexington Avenue North
St. Paul, MN 55126-8097

Mindplay, Inc.
100 Conifer Hill Dr., Bldg. 3A
Danvers, MA 01923

Mindscape
3444 Dundee
Northbrook, IL 60062

National Geographic Educational Services
Department 87
17th & M Streets, NW
Washington, D.C. 20036

Polarware
1055 Paramount Pkwy., Suite A
Batavia, IL 60510

Scholastic, Inc.
4460 Black Avenue, Suite J
Pleasanton, CA 94566

Society for Visual Education
1345 Diversey Pkwy.
Chicago, IL 60614

Sunburst Communications
39 Washington Avenue
Pleasantville, NY 10570

Tom Snyder Productions
90 Sherman Street
Cambridge, MA 02140

True BASIC, Inc.
350 Theodore Fremd Avenue
Rye, NY 10580

The Voyager Company
2139 Manning Avenue
Los Angeles, CA 90025

Instructional Video Producers

Many of the instructional video programs may be available for circulation from county offices of education and/or district media centers or are broadcast by regional ITV agencies.

Barr Films
12801 Schararum
P.O. Box 7878
Irwindale, CA 91706-7878

Beacon Films
P.O. Box 575
Norwood, MA 02062

BFA Educational Media
470 Park Avenue South
New York, NY 10016

Centre Productions Inc
12801 Schararum
P.O. Box 7878
Irwindale, CA 91706-7878

Churchill Films
662 N. Robertson Boulevard
Los Angeles, CA 90069-5089

Coronet Film and Video
108 Wilmot Road
Deerfield, IL 60015

Direct Cinema Limited
P.O. Box 69589
Los Angeles, CA 90069

Encyclopedia Britannica Educational Corporation
425 North Michigan Avenue
Chicago, IL 60611

European Art School
177 Hearthstone
Irvine, CA 92714

Filmmakers Library
133 East 58th Street
New York, NY 10022

Gessler Publishing Company
900 Broadway
New York, NY 10033

Great Plains National Instructional Television
P.O. Box 80669
Lincoln, NE 68501

Guidance Associates
Communications Park, Box 3000
Mount Kisco, NY 10549-0900

International Film Bureau
332 South Michigan Avenue
Chicago, IL 60604

Lucerne Media
37 Ground Pine Road
Morris Plains, NJ 07950

Pyramid Film and Video
Box 1048
Santa Monica, CA 90406

SirS, Inc.
P.O. Box 2348
Boca Raton, FL 33427-2348

Stanton Films
2417 Artesia Boulevard
Redondo Beach, CA 90278

Walt Disney Educational Media
Distributed by Coronet Film and Video
108 Wilmot Road
Deerfield, IL 60015

List of Programs Included

All of the instructional video and computer software programs rated "Desirable" or "Exemplary" by teacher/evaluators for the *1988 Update* are listed below. The curriculum area and page number are given for each program.

Computer Software Programs

Title	Subject	Page
Adventures with Charts and Graphs: Project Zoo	Math	38
Adventures with Charts and Graphs: Project Zoo	Science	46
Algebra Shop	Math	39
Algebraic Proposer	Math	39
Animate	VPA	61
Calculus	Math	40
Comic Strip Factory	VPA	61
Crosscountry California	HSS	11
Decisions, Decisions: Urbanization – The Growth of Cities	HSS	12
816/Paint V.3.1	VPA	63
Explore-A-Science Series	Science	52
Explore-A-Story Series	LA	29
The 49ers	HSS	13
Fraction Munchers	Math	40
Geometry One: Foundations	Math	41
GeoWorld: A Living Database	HSS	14
GeoWorld: A Living Database	Science	52
Golden Spike	HSS	15
Hear Today . . . Play Tomorrow Series	VPA	65
How The West Was One + Three x Four	Math	41
HyperCard	VPA	66
Interviews with History	HSS	16
Jam Session	VPA	67
Keyboard Arpeggios, Music MIDIworks Series	VPA	68
Light Lab	Science	53
Lollipop Dragon's World of Maps and Globes:		
Exploring Maps and Globes	HSS	17
Muppet Slate	LA	32
National Gallery of Art LaserGuide	VPA	68
PageMaker V.2.0	VPA	69
Paintworks Plus V.1.2	VPA	69
Pathfinder	Math	42
Picture Perfect	VPA	70
Plane View	Math	42
Plant Growth Simulator: Elementary Version	Science	54
Playing With Science: Temperature	Science	55
ShowOff	VPA	66
Sound: A Microcomputer Based Lab	Science	56
Spy's Adventure	HSS	21
That's Life: Field Ecology Simulation	Science	57

Ticket to Paris	FL	5
Ticket to Spain	FL	6
TimeLiner	HSS	23
Treasure Hunt	HSS	24
VideoWorks II	VPA	70
Weather and Climate Lab	Science	57
Westward Ho!	HSS	25
Write A Story	LA	36

Instructional Video Programs

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AIDS: Answers for Young People	Science	46
Animal Families	Science	47
Animated Atlas of the World	Science	50
Anne of Green Gables	LA	29
Best of Sesame Street: Parts of the Body – All About You	Science	51
Children of Japan: Learning the New, Remembering the Old	HSS	10
Comerciales en Español	FL	5
Creepy Crawlers: Legless Locomotion	Science	50
Discovering the Orchestra	VPA	62
European Art School: Basic Art Education	VPA	64
Frog and Toad Together	LA	30
Fruit at the Bottom of the Bowl	LA	30
Grant Wood's America	VPA	63
Gullah Tales	LA	31
Harry, the Dirty Dog	LA	31
If You Could See the Earth	Science	53
Loving Rebel	HSS	18
Mouse and the Motorcycle	LA	32
Photosynthesis	Science	54
Rainbow War	LA	33
Reading Rainbow	LA	33
Return of the Sea Otter	Science	55
Solar System: A First Film	Science	56
South America	HSS	19
Spirit to Spirit: Nikki Giovanni	LA	35
Standing Up For Yourself	HSS	22
Through Grandpa's Eyes	LA	36
Wonder World of Science	Science	58
World of Charles Dickens	HSS	26

Key: FL = Foreign Language, HSS = History-Social Science, LA = Language Arts,
VPA = Visual and Performing Arts